

# **EXHIBIT 54**

Jack Siemiatycki, Ph.D.

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UNITED STATES DISTRICT COURT  
DISTRICT OF NEW JERSEY

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IN RE JOHNSON & JOHNSON ) MDL No.  
TALCUM POWDER PRODUCTS ) 16-2738 (FLW)(LHG)  
MARKETING SALES PRACTICES, )  
AND PRODUCTS LIABILITY )  
LITIGATION )  
 )  
THIS DOCUMENT RELATES TO )  
ALL CASES )

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VIDEOTAPED DEPOSITION OF

JACK SIEMIATYCKI, Ph.D.

MONTREAL, CANADA

THURSDAY, JANUARY 31, 2019

9:49 A.M.

Reported by: Leslie A. Todd

Jack Siemiatycki, Ph.D.

<p style="text-align: right;">Page 2</p> <p>1 Deposition of JACK SIEMIATYCKI, Ph.D., held at 2 the offices of: 3 4 5 CHUM Research Center 6 Montreal, Canada 7 8 9 10 11 12 Pursuant to notice, before Leslie Anne Todd, 13 Court Reporter and Notary Public in and for the 14 District of Columbia, who officiated in 15 administering the oath to the witness. 16 17 18 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 4</p> <p>1 APPEARANCES (Continued): 2 3 RICHARD GOLOMB, ESQUIRE 4 GOLOMB &amp; HONIK, LLP 5 1835 Market Street 6 Suite 2900 7 Philadelphia, Pennsylvania 19103 8 (215) 278-4449 9 rgolomb@golombhonik.com 10 ON BEHALF OF THE JOHNSON &amp; JOHNSON DEFENDANTS: 11 KIMBERLY OLVEY BRANSCOME, ESQUIRE 12 KIRKLAND &amp; ELLIS LLP 13 333 South Hope Street 14 Los Angeles, California 90071 15 (213) 680-8370 16 kimberly.brancombe@kirkland.com 17 JESSICA BRENNAN, ESQUIRE 18 DRINKER BIDDLE &amp; REATH LLP 19 600 Campus Drive 20 Florham Park, New Jersey 07932 21 (973) 540-1000 22 jessica.brennan@dbr.com 23 24 25</p>
<p style="text-align: right;">Page 3</p> <p>1 A P P E A R A N C E S 2 3 ON BEHALF OF THE PLAINTIFFS: 4 CHRISTOPHER V. TISI, ESQUIRE 5 LEVIN PAPANTONIO, LLP 6 316 South Baylen Street 7 Pensacola, Florida 32502 8 (850) 435-7184 9 ctisi@levinlaw.com 10 MICHELLE A. PARFITT, ESQUIRE 11 ASHCRAFT &amp; GEREL, LLP 12 4900 Seminary Road, Suite 650 13 Alexandria, Virginia 22311 14 (703) 997-1774 15 MParfitt@ashcraftlaw.com 16 ALASTAIR J.M. FINDEIS, ESQUIRE 17 NAPOLI SHKOLNIK, PLLC 18 360 Lexington Avenue 19 11th Floor 20 New York, New York 10017 21 (212) 397-1000 22 23 24 25</p>	<p style="text-align: right;">Page 5</p> <p>1 APPEARANCES (Continued): 2 3 ON BEHALF OF THE PCPC: 4 RENEE APPEL, ESQUIRE (Telephonically) 5 SEYFARTH SHAW LLP 6 975 F Street, N.W. 7 Washington, DC 20004 8 (202) 828-5371 9 rappel@seyfarth.com 10 ON BEHALF OF THE IMERY'S DEFENDANTS: 11 MICHAEL R. KLATT, ESQUIRE 12 GORDON &amp; REES SCULLY MANSUKHANI, LLP 13 816 Congress Avenue, Suite 1510 14 Austin, Texas 78701 15 (512) 391-0183 16 mklatt@grsm.com 17 ON BEHALF OF PTI: 18 CAROLINE M. TINSLEY, ESQUIRE (for PTI) 19 TUCKER ELLIS, LLP 20 100 South 4th Street, Suite 600 21 St. Louis, Missouri 63102 22 (314) 571-4965 23 caroline.tinsley@tuckerellis.com 24 ALSO PRESENT: 25 FABIO DEFELICE (Videographer)</p>

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<p>1 EXHIBITS (Continued)</p> <p>2 (Attached to transcript)</p> <p>3 SIEMIATYCKI DEPOSITION EXHIBITS PAGE</p> <p>4 No. 7 JS EpiTech Inc. bill for</p> <p>5 Professional Services, August 9 -</p> <p>6 November 16, 2018 46</p> <p>7 No. 8 JS EpiTech Inc. bill for</p> <p>8 Professional Services, July 1 -</p> <p>9 August 2, 2018 48</p> <p>10 No. 9 Report of Jack Siemiatycki dated</p> <p>11 October 4th, 2016 (not attached) 58</p> <p>12 No. 10 Expert Report of Jack Siemiatycki</p> <p>13 Msc, PhD Talcum Powder Use and</p> <p>14 Ovarian Cancer (not attached) 61</p> <p>15 No. 11 Expert Report of Jack Siemiatycki</p> <p>16 MSc, PhD on Talcum Powder Use and</p> <p>17 Ovarian Cancer (with handwritten</p> <p>18 notations) 110</p> <p>19 No. 12 Berge 2012 report (not attached) 194</p> <p>20 No. 13 Schildkraut report (not attached) 214</p> <p>21 No. 14 Anita Koushik information from</p> <p>22 Environepi website 278</p> <p>23 No. 15 Pages from Environepi website</p> <p>24 discussing Group Research Topics 285</p> <p>25</p>	<p>1 PROCEEDINGS</p> <p>2 -----</p> <p>3 THE VIDEOGRAPHER: Good morning. We're</p> <p>4 now on the record. My name is Fabio DeFelice.</p> <p>5 I'm the videographer for Golkow Litigation</p> <p>6 Services. Today's date is January 31st of 2019.</p> <p>7 The time is 9:49 a.m.</p> <p>8 This video deposition is being held at</p> <p>9 the CHUM Research Center in Montreal, Canada, in</p> <p>10 the matter In Re: Johnson &amp; Johnson Talcum Powder</p> <p>11 Products in the United States District Court for</p> <p>12 the Eastern District of New Jersey. The case</p> <p>13 number is 16-2738.</p> <p>14 The deponent is Jack Siemiatycki, Ph.D.</p> <p>15 The counsel will be noted on the</p> <p>16 stenographic record. The court reporter is Leslie</p> <p>17 Todd, and will now swear in the witness.</p> <p>18 JACK SIEMIATYCKI, Ph.D.,</p> <p>19 and having been first duly sworn,</p> <p>20 was examined and testified as follows:</p> <p>21 DIRECT EXAMINATION</p> <p>22 BY MS. BRANSCOME:</p> <p>23 Q Good morning, Dr. Siemiatycki.</p> <p>24 A Good morning. Nice to meet you.</p> <p>25 Q We met just before the deposition</p>

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Jack Siemiatycki, Ph.D.

<p style="text-align: right;">Page 10</p> <p>1 started, but my name is Kimberly Branscome, and I 2 am here to ask you questions today on behalf of 3 Johnson &amp; Johnson. 4 Is that all right? 5 A Thank you. Yes. 6 Q All right. We are taking your 7 deposition today in the case of In Re: Johnson &amp; 8 Johnson Talc Litigation, MDL. 9 Is it your understanding that you have 10 been designated as a testifying expert in that 11 case? 12 A Yes. 13 Q When were you first contacted about 14 serving as an expert witness in the MDL 15 litigation? 16 A I believe it was in the spring or summer 17 of 2018, but I'm not positive about that. 18 Q Who contacted you? 19 A Ms. Parfitt. 20 Q Have you communicated with any other 21 lawyers regarding your work on the talc MDL? 22 A I've had a couple of meetings with 23 Ms. Parfitt and her colleagues that she works 24 with. 25 Q Can you identify the individuals with</p>	<p style="text-align: right;">Page 12</p> <p>1 anyone else present at those meetings? 2 A No. 3 Q You didn't have anyone from your team, 4 for example, present? 5 A No. 6 MS. PARFITT: Objection. Form. 7 BY MS. BRANSCOME: 8 Q What did you do to prepare for your 9 deposition today? 10 A Do you mean from the beginning of my 11 involvement in the MDL case back last summer or do 12 you mean just in the last few days? 13 Q Let's take it more broadly. 14 What have you done to develop your 15 opinions in this case, and then specifically to 16 prepare for your deposition? 17 A I reviewed -- I rereviewed the 18 literature about talc and ovarian cancer, 19 scientific literature. I evaluated it, I wrote a 20 report about it. And in the last few days, I went 21 over all of the -- not all, but a lot of the 22 material that I had gone through initially and 23 just clarified for myself, looked for any issues 24 that I had missed the first time around, things 25 like that.</p>
<p style="text-align: right;">Page 11</p> <p>1 whom you have met in addition to Ms. Parfitt? 2 A Yes, there are two, and they are here 3 present. Chris Tisi and Alastair -- 4 MR. FINDEIS: Findeis. 5 THE WITNESS: Say that again. 6 MS. PARFITT: Findeis. 7 THE WITNESS: And that's -- thank you. 8 BY MS. BRANSCOME: 9 Q How many meetings have you had to 10 prepare for your expert opinions in the MDL? 11 A One yesterday and one about a month -- 12 about three weeks ago. 13 Q Where did those meetings take place? 14 A Here. 15 Q And by "here," do you mean in Montreal? 16 A In Montreal, yes. 17 Q How long did each meeting last? 18 A Yesterday's was about four, five hours 19 maybe. Four or five hours. And the earlier one, 20 I guess all told, about ten hours maybe. 21 Q Did the ten-hour meeting take place over 22 one day? 23 A Over two days. 24 Q In addition to the attorneys that you 25 just identified for the record and yourself, was</p>	<p style="text-align: right;">Page 13</p> <p>1 Q As part of your review of materials in 2 preparation for today, did you identify anything 3 in your review that changed the opinions that you 4 have offered in the expert report in the MDL? 5 A No. Those opinions remain valid. 6 Q When you say that you rereviewed the 7 scientific literature in preparation for the 8 development of your opinions in the MDL, what did 9 you mean by "rereviewed"? 10 A Well, I had reviewed -- I've reviewed 11 evidence around talc and ovarian cancer on a few 12 different occasions. The first time was in 2006 13 when I was on an international review committee on 14 the topic. Then in 2015, '16, '17, in preparation 15 for another litigation regarding talc and ovarian 16 cancer. Then in the summer/fall of 2018, in 17 preparation for writing a report that was 18 submitted for this case. And then in the last 19 week or two, roughly speaking, I went over all of 20 that. So I refer to that as a rereview. 21 Q Have you ever discussed your deposition 22 with any of -- of the other experts designated by 23 the plaintiffs in the MDL? 24 A No, I haven't. 25 Q Have you discussed your expert opinions</p>

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Jack Siemiatycki, Ph.D.

<p style="text-align: right;">Page 14</p> <p>1 with any of the other experts designated by the</p> <p>2 plaintiffs in the MDL?</p> <p>3 A No, I haven't.</p> <p>4 Q Are you aware of the list of experts</p> <p>5 that have been designated by the plaintiffs in the</p> <p>6 MDL?</p> <p>7 A I'm aware of at least some of them. I'm</p> <p>8 not sure if I'm aware of all of them, but I'm</p> <p>9 aware of some of them.</p> <p>10 Q Who specifically are you aware of?</p> <p>11 A Singh, McTiernan, Laura Plunkett. And</p> <p>12 there are a few more, and I could look it up.</p> <p>13 Q I'd like to start by just marking the</p> <p>14 deposition notice for your deposition as</p> <p>15 Exhibit 1.</p> <p>16 Dr. Siemiatycki, you will see two large</p> <p>17 binders over there in front of you. This will be</p> <p>18 tab 1.</p> <p>19 So I'd like --</p> <p>20 A I see it.</p> <p>21 Q I'd like to mark for identification</p> <p>22 the document behind tab 1, which is</p> <p>23 Dr. Siemiatycki's deposition notice as Exhibit 1</p> <p>24 to this deposition.</p> <p>25 MS. PARFITT: Do you want to give me --</p>	<p style="text-align: right;">Page 16</p> <p>1 your deposition that were submitted by plaintiffs'</p> <p>2 counsel in the MDL. And this one we actually will</p> <p>3 need to mark a copy, because it's not in your</p> <p>4 binder.</p> <p>5 (Exhibit No. 2 was marked for</p> <p>6 identification.)</p> <p>7 MS. BRANSCOME: Do you have an extra</p> <p>8 copy, Michelle?</p> <p>9 MS. PARFITT: I do. Not a worry. I got</p> <p>10 it.</p> <p>11 BY MS. BRANSCOME:</p> <p>12 Q Dr. Siemiatycki, have you ever seen the</p> <p>13 document that has been marked as Exhibit 2, which</p> <p>14 is the plaintiffs' general objections to your</p> <p>15 deposition notice?</p> <p>16 A I'm not sure.</p> <p>17 MS. PARFITT: I will represent for the</p> <p>18 record that's not been provided to</p> <p>19 Dr. Siemiatycki.</p> <p>20 BY MS. BRANSCOME:</p> <p>21 Q All right. So if you could,</p> <p>22 Dr. Siemiatycki, did you bring any materials with</p> <p>23 you today to the deposition?</p> <p>24 A Yes, I brought a lot of documents, just</p> <p>25 in case.</p>
<p style="text-align: right;">Page 15</p> <p>1 Do you want me to just mark them? Will</p> <p>2 that help you, instead of reaching across the</p> <p>3 table? It's up to you. I can put the stickers on</p> <p>4 it.</p> <p>5 (A discussion was held off the record.)</p> <p>6 (Exhibit No. 1 was marked for</p> <p>7 identification.)</p> <p>8 BY MS. BRANSCOME:</p> <p>9 Q Dr. Siemiatycki, are you familiar with</p> <p>10 the document that we have just marked as</p> <p>11 deposition Exhibit 1?</p> <p>12 A I've seen something like this. I'm --</p> <p>13 not reading through it, I'm not sure if it's</p> <p>14 exactly the same document that I have seen before,</p> <p>15 but I guess this is kind of the standard format of</p> <p>16 notice that is sent to experts ahead of time. So</p> <p>17 I've seen -- I've seen that.</p> <p>18 Q Do you understand that what has been</p> <p>19 marked as Exhibit 1, which is the notice for your</p> <p>20 deposition, requests that you bring certain</p> <p>21 documents with you to this deposition?</p> <p>22 A Yes.</p> <p>23 Q All right. And just for completeness</p> <p>24 and at the request of plaintiffs' counsel, I will</p> <p>25 also mark as Exhibit 2 the general objections to</p>	<p style="text-align: right;">Page 17</p> <p>1 Q Can you identify for me, and we can</p> <p>2 start with a general category first, if that's</p> <p>3 helpful, the materials that you brought with you</p> <p>4 today to your deposition?</p> <p>5 A Well, I brought my report. I brought an</p> <p>6 addendum to my report, which I think has been</p> <p>7 provided to you.</p> <p>8 MS. PARFITT: Yes, that was the table.</p> <p>9 THE WITNESS: It's a long -- it's a set</p> <p>10 of --</p> <p>11 MS. PARFITT: I have a copy of that if</p> <p>12 you wish to have it marked. Do you want it -- if</p> <p>13 you give me a number, I will put it on this one.</p> <p>14 BY MS. BRANSCOME:</p> <p>15 Q Let's see. Yeah, let's go ahead and</p> <p>16 mark the addendum to your expert report as</p> <p>17 Exhibit 3.</p> <p>18 (Exhibit No. 3 was marked for</p> <p>19 identification.)</p> <p>20 BY MS. BRANSCOME:</p> <p>21 Q Dr. Siemiatycki, could you just confirm</p> <p>22 for the record that what we have marked as</p> <p>23 Exhibit 3 is in fact the complete addendum to your</p> <p>24 MDL expert report?</p> <p>25 A I -- I believe it is. I believe it is.</p>

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<p>1 Q What else did you bring with you today?</p> <p>2 A I'm not sure if this is the right time</p> <p>3 to mention it, but there were a couple of -- in</p> <p>4 the past few days I picked up a couple of typos in</p> <p>5 my report, and I've hand scribbled them on my</p> <p>6 copy, and I can tell you about those very quickly,</p> <p>7 but I'm not sure if this is now the right time for</p> <p>8 this or later.</p> <p>9 Q I will ask you about any corrections</p> <p>10 that you have, but it is good to know that the</p> <p>11 report you brought with you has some handwriting</p> <p>12 on it, so we will make sure to mark that copy.</p> <p>13 A Okay.</p> <p>14 Q What else did you bring with you today?</p> <p>15 A I brought -- well, I brought three</p> <p>16 binders of material that were part of the -- the</p> <p>17 references to my report.</p> <p>18 MS. PARFITT: And if I may, I provided</p> <p>19 counsel in advance of the deposition a thumb drive</p> <p>20 that contains all of Dr. Siemiatycki's report but</p> <p>21 also the references related to that report.</p> <p>22 THE WITNESS: I brought a couple of</p> <p>23 binders -- well, more than a couple. It looks</p> <p>24 like five binders of different documents that I</p> <p>25 thought might be useful in answering questions</p>	<p>1 Agency for Research on Cancer, of the meeting held</p> <p>2 in Lyon in 2006. The book was published in 2010,</p> <p>3 and it contains an evaluation of talc</p> <p>4 carcinogenicity as of 2006.</p> <p>5 The next one is a textbook of</p> <p>6 epidemiology that is probably considered the most</p> <p>7 respected one in the field at this point, authored</p> <p>8 by Rothman, T -- R-O-T-H-M-A-N, Greenland,</p> <p>9 G-R-E-E-N-L-A-N-D, and Lash, L-A-S-H.</p> <p>10 MR. KLATT: Dr. Siemiatycki, is there a</p> <p>11 particular edition or is there --</p> <p>12 THE WITNESS: Oh, yeah. Yeah, this one</p> <p>13 is third edition. Thank you.</p> <p>14 The fourth one is kind of a handbook</p> <p>15 called Dictionary of Epidemiology, edited by</p> <p>16 Porta, P-O-R-T-A, which is kind of a very basic</p> <p>17 book of definitions.</p> <p>18 And the fifth one is called An</p> <p>19 Introduction to Meta-Analysis. The first author</p> <p>20 is Borenstein, B-O-R-E-N-S-T-E-I-N.</p> <p>21 BY MS. BRANSCOME:</p> <p>22 Q All right. Focusing first on the books</p> <p>23 that you brought with you, why did you bring with</p> <p>24 you a book about Risk Factors --</p> <p>25 A For cancer.</p>
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<p>1 that you might ask. So it was -- I was just</p> <p>2 speculating on the types of questions you might</p> <p>3 ask and brought documents that might help to</p> <p>4 answer or to support arguments or statements that</p> <p>5 I would make. I brought five --</p> <p>6 MS. PARFITT: You can get --</p> <p>7 THE WITNESS: -- which --</p> <p>8 MS. PARFITT: -- the texts --</p> <p>9 THE WITNESS: The textbooks. I brought</p> <p>10 five books with me, again in the same spirit that</p> <p>11 things might come up that it would be helpful to</p> <p>12 refer to material in these books. One -- should I</p> <p>13 tell you what they are?</p> <p>14 BY MS. BRANSCOME:</p> <p>15 Q If you would, please, identify each of</p> <p>16 the books --</p> <p>17 A Okay.</p> <p>18 Q -- for the record, and we will return to</p> <p>19 the eight binders that you just mentioned.</p> <p>20 A One is a book called Risk Factors for</p> <p>21 Cancer in the Workplace. And it's a book that I</p> <p>22 wrote 30 years ago about occupational causes of</p> <p>23 cancer.</p> <p>24 The other one -- the next one is the</p> <p>25 monograph of IARC, which is the International</p>	<p>1 Q -- for Cancer in the Workplace?</p> <p>2 A Because it has -- in that book I -- I</p> <p>3 described my research. I described the research</p> <p>4 findings from my projects in this area. I also</p> <p>5 described the process of conducting epidemiologic</p> <p>6 research and drawing inferences from epidemiologic</p> <p>7 data, and how -- what are the considerations that</p> <p>8 would be used in drawing inferences from</p> <p>9 epidemiologic data for cancer causation. And I</p> <p>10 thought this might come up during the day.</p> <p>11 Q Do the methodological principles that</p> <p>12 you outline in your book, Risk Factors for Cancer</p> <p>13 in the Workplace, are those still current in your</p> <p>14 view today?</p> <p>15 A Yes.</p> <p>16 Q And why specifically did you want to</p> <p>17 have this book available to you during your</p> <p>18 deposition?</p> <p>19 A In case any of the statements that I've</p> <p>20 made in my report about evaluating causation and</p> <p>21 how epidemiology is used for evaluating causation</p> <p>22 are challenged. And specifically, I was</p> <p>23 anticipating that there may be challenges to the</p> <p>24 fact that my approach to this question might be</p> <p>25 new and just sort of concocted in the context of</p>

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<p>1 the litigation, and I wanted to show that in my 2 own sort of intellectual history, these ideas have 3 been there forever but certainly for the last 30 4 years, and that these are commonly held views. 5 Q Are there specific chapters within the 6 book that you brought with you that you would 7 direct someone to to gain information about the 8 methodology that you applied in the MDL? 9 MS. PARFITT: Objection. Form. 10 THE WITNESS: I'm sorry. Could you 11 repeat the question? 12 BY MS. BRANSCOME: 13 Q Understanding that what you brought with 14 you -- 15 A Yes. 16 Q -- is a complete book -- 17 A Yes. 18 Q -- are there specific chapters that you 19 contend contain an explanation of the methodology 20 that is similar to what you have applied in your 21 analysis in the MDL? 22 MS. PARFITT: Objection. Form, broad. 23 THE WITNESS: So I would say there are 24 two chapters that have relevance to the issue at 25 hand. The last chapter contains a discussion of</p>	<p>1 A Yeah. 2 Q -- in the MDL? 3 A I -- yes, I -- I collected as much 4 information, data from different research studies 5 as possible. I evaluated those studies. I 6 ordered them according to the types of evidence 7 that they provide. I tried to synthesize the 8 evidence in particular in the basket of 9 epidemiologic research on the topic. And I 10 juxtaposed the information from epidemiologic 11 evidence with evidence derived from other domains 12 which are provided by other experts. And I made a 13 professional judgment about how all of that fits 14 with different ways of understanding the 15 relationship between perennial use of talc and the 16 risk of ovarian cancer. 17 Q Is the methodology that you just 18 described that you used in forming your opinions 19 in the MDL described in the textbook that you 20 brought with you about risk factors in the 21 workplace? 22 A It is implicit. It is implicit in the 23 work of epidemiologists, and it's implicit in the 24 way we synthesize information. So, in 25 epidemiologic practice, the role of -- there's no</p>
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<p>1 causality and how to use epidemiology in the 2 process of determining causality. 3 The first -- the second chapter contains 4 information -- excuse me, I think it's the second 5 chapter -- contains information about different 6 epidemiologic research designs, and it's a 7 discussion of case-controlled studies, cohort 8 studies, and other types of epidemiologic designs 9 and their relative advantages and disadvantages. 10 BY MS. BRANSCOME: 11 Q Is there a description of the 12 methodology that you have applied in your analysis 13 in the MDL that is directly described in the book 14 that you just referenced? 15 MS. PARFITT: Objection. Form. 16 THE WITNESS: I'm not sure what you mean 17 by "directly," and I'm not sure what you mean by 18 "methodology." 19 BY MS. BRANSCOME: 20 Q Did you apply a specific methodology in 21 reaching your opinions here in the MDL? 22 A What do you mean by "a specific 23 methodology"? 24 Q Did you -- did you use a methodology in 25 forming your opinions --</p>	<p>1 cookbook recipe in how you start the day and 2 finish the day. You collect data. You use your 3 best judgment about how to synthesize and 4 integrate it. And I guess it comes under the 5 rubric of weight of evidence. You look at all of 6 the evidence, and you (weigh it according to your 7 professional judgment. 8 And most of the agencies that have any 9 policies or statements about synthesizing 10 information will talk about collecting 11 information, evaluating it, weighing it, and 12 making a judgment about it. 13 Q If someone were reviewing just your 14 report in the MDL, would they be able to replicate 15 the weight that you gave different pieces of 16 evidence that you considered? 17 A The synthesis of scientific information 18 is not an automated process. It can't be done by 19 a robot. And in every description of how such 20 evidence is synthesized and integrated, the final 21 step always involves professional judgment, and as 22 it should, because there are too many moving parts 23 in all of this to be able to, a priori, set up an 24 algorithm that allows you to automate and arrive 25 at some score that tells you, yes or no, this</p>

7 (Pages 22 to 25)



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<p style="text-align: right;">Page 26</p> <p>1 agent is dangerous or not dangerous or something 2 like that. 3 So in line with everything I've done in 4 my career, everything that I've been involved with 5 in international and national agencies, whether 6 it's USNCI or the World Health Organization or 7 other agencies, the process depends critically on 8 judgment of the people who are making the 9 decisions or who are making the evaluations. 10 Q Respectfully, Dr. Siemiatycki, that was 11 not my question. 12 My question was, could someone by 13 reviewing the report that you have provided in the 14 MDL replicate your analysis in the sense that they 15 would understand the weight that you gave to each 16 piece of evidence you considered? 17 A I think to a considerable extent I've 18 given fairly explicit information in the report on 19 all of the components of information that I used 20 and the relative weight, but -- not in a 21 quantitative way, but the relative importance that 22 I attribute to different parts of the evidence 23 package. 24 Q You did not do any type of scoring 25 system, for example, in considering the various</p>	<p style="text-align: right;">Page 28</p> <p>1 selected, when they were selected, when they were 2 followed up, how -- all of these things may have a 3 different score, and you may have a hundred 4 dimensions to evaluate on each study. And nobody 5 has come up with a -- a usable, useful, 6 replicatable method for integrating all of this. 7 There have been some attempts and there are some 8 scoring systems out there. The fact that there 9 are scoring -- that someone has published a 10 scoring system, and that even a committee has, 11 does not mean that it's valid. 12 But I -- my professional opinion, and 13 that of I think many other people -- because 14 typically studies are not scored in this way. 15 That's -- when people review evidence. Or if 16 they -- anyway, typically they are not, and my 17 feeling is that there is no valid way really of 18 doing it. 19 But the -- in order to sort of complete 20 the answer to I think what's behind your question 21 of why I didn't do such a thing in my report with 22 all of the studies is that I adopted early on -- I 23 made a decision early on to avoid excluding 24 studies from my analysis based on my opinion about 25 the quality of the study. This is a decision that</p>
<p style="text-align: right;">Page 27</p> <p>1 underlying studies that you evaluated. Is that 2 fair? 3 A No -- no, I did not, because I don't 4 consider that a valid procedure. 5 Q Why is that not a valid procedure? 6 A Because I don't think epidemiologic 7 studies can be summarized in single-digit scores. 8 There are too many different aspects of a study, 9 and any attempt to do so, I think is flawed and -- 10 Q Why is the attempt to assigning a score, 11 single digit or otherwise, a flawed methodology? 12 A Because there are so many -- a study can 13 be good in one dimension, mediocre in a third, 14 excellent in a fourth, bad in a fifth, so-so in a 15 sixth, and so on. 16 There are so many dimensions of a study, 17 and each one of them can be rated. And that's -- 18 that is something that I do do. I evaluate 19 everything from participation rate to the 20 population in which the study was carried out, to 21 the way the questions were asked in the 22 questionnaire, to the way the information from the 23 questionnaire was -- was coded and categorized, to 24 the way the design of the -- whether its case 25 controlled or otherwise, how the subjects were</p>	<p style="text-align: right;">Page 29</p> <p>1 other meta-analyses have also made implicitly. I 2 don't know if they've made it explicitly, but 3 there are no studies that have -- as far as I 4 know, there are no meta-analyses that have 5 literally excluded studies on the basis of quality 6 or -- or done a systematic attempt to do this. 7 And I made a decision early on that if I 8 tried to -- if I went down the road of eliminating 9 some studies from my analysis, this would be 10 criticized as some form of cherry-picking, and in 11 an attempt to avoid that criticism, I decided I 12 would include all pieces of evidence, 13 notwithstanding my opinion of the overall quality 14 of the study. 15 Q Okay. Dr. Siemiatycki, that was a very 16 long answer, but I will try to unpack a few -- 17 A Yes. 18 Q -- portions of that. 19 So you would agree that in order for a 20 methodology to be valid, it has to be a process 21 that can be replicated? 22 MS. PARFITT: Objection. Form. 23 THE WITNESS: What do you mean by 24 "replicated"? You mean that someone else 25 following exactly the same steps and the -- making</p>

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<p style="text-align: right;">Page 30</p> <p>1 the same assumptions as the -- the person who did</p> <p>2 the analysis would be able to end up with the same</p> <p>3 statistical estimates at the end? Is that what</p> <p>4 you mean? Or do you mean that they would make the</p> <p>5 same judgments?</p> <p>6 BY MS. BRANSCOME:</p> <p>7 Q Well, Dr. Siemiatycki, you indicated one</p> <p>8 of the reasons why you don't agree with using a</p> <p>9 quantitative point system was that a methodology</p> <p>10 had not been developed that was, I believe you</p> <p>11 said, useful, usable and replicable.</p> <p>12 What did you mean by the word</p> <p>13 "replicable" when you used it in your own answer?</p> <p>14 A Did I use the word "replicable" in that</p> <p>15 sentence? Can I -- can I read that? (Peruses</p> <p>16 monitor.)</p> <p>17 I'm not sure what I had in mind with the</p> <p>18 use -- the word -- yes, you can produce a</p> <p>19 replicable system, but it doesn't mean that it's</p> <p>20 valid. So useful and usable, yes. I don't think</p> <p>21 that there is one that would capture, for</p> <p>22 observational epidemiology, the -- all of the</p> <p>23 components that are necessary really to tease out</p> <p>24 good and/or bad studies.</p> <p>25 BY MS. BRANSCOME:</p>	<p style="text-align: right;">Page 32</p> <p>1 giving to the pieces of evidence that he or she is</p> <p>2 considering in reaching their ultimate conclusion.</p> <p>3 Is that fair?</p> <p>4 MS. PARFITT: Objection. Form.</p> <p>5 THE WITNESS: It depends what you mean</p> <p>6 by "weight." If you mean by "weight" a</p> <p>7 quantitative number, then, no, that's not</p> <p>8 necessary.</p> <p>9 If you mean sort of a heuristic,</p> <p>10 qualitative understanding of the relative</p> <p>11 importance of different components of evidence,</p> <p>12 then I would say yes. It's important to know what</p> <p>13 played into a -- a reviewer's opinion.</p> <p>14 BY MS. BRANSCOME:</p> <p>15 Q You also indicated that you do in fact</p> <p>16 rate studies. What did you mean by that?</p> <p>17 A Sorry. Can we read back where I said</p> <p>18 that? I -- (peruses monitor.)</p> <p>19 I haven't found it, but I -- I think I</p> <p>20 meant it as a synonym for evaluate. I think I</p> <p>21 meant I evaluate different studies.</p> <p>22 Q Okay. If I could direct your</p> <p>23 attention --</p> <p>24 A Yes.</p> <p>25 Q -- to pages -- page 19, lines 6</p>
<p style="text-align: right;">Page 31</p> <p>1 Q My question to you, though,</p> <p>2 Dr. Siemiatycki, is that, is it important for a</p> <p>3 methodology to be replicable?</p> <p>4 A It is important -- the most important is</p> <p>5 for it to be valid. The replicability is an issue</p> <p>6 that involves judgment. Different scientists may</p> <p>7 have different judgments about the value of</p> <p>8 different components of evidence. That diversity</p> <p>9 of judgment is not a bad thing, and there's no</p> <p>10 benefit to science in forcing everyone to have the</p> <p>11 same judgment within some scoring system.</p> <p>12 So science progresses from collection of</p> <p>13 data and from different scientists evaluating the</p> <p>14 data, and from the same information base different</p> <p>15 scientists can make different judgments about it,</p> <p>16 and in that sense, the final evaluations are not</p> <p>17 necessarily replicable because different</p> <p>18 scientists can make different judgments.</p> <p>19 But they are understandable. You need</p> <p>20 the different processes to be sufficiently</p> <p>21 understandable that different readers and so on of</p> <p>22 reports can understand how you came to the</p> <p>23 conclusions.</p> <p>24 Q And so it is important to be able to</p> <p>25 understand what weight a particular scientist is</p>	<p style="text-align: right;">Page 33</p> <p>1 through 8.</p> <p>2 A Of -- 19 of -- of what?</p> <p>3 Q Of the transcript that's --</p> <p>4 A Okay.</p> <p>5 Q -- in front of you, which understanding</p> <p>6 is just a rough, but if you want to review your</p> <p>7 answer.</p> <p>8 A Sure. (Peruses document.)</p> <p>9 Yes, here by "rated," I meant evaluated.</p> <p>10 Q Did you rank the different pieces of</p> <p>11 evidence that you considered in forming your</p> <p>12 opinion with respect to talc and the risk of</p> <p>13 ovarian cancer?</p> <p>14 A I -- I've never done that in the</p> <p>15 hundreds and hundreds of evaluations I've carried</p> <p>16 out, nor in this one do I actually put a score on</p> <p>17 different components of -- of a study. Yeah.</p> <p>18 Q My question is slightly different,</p> <p>19 Dr. Siemiatycki.</p> <p>20 It's ranking them relative to each</p> <p>21 other. So whether or not you're assigning a</p> <p>22 specific quantitative number to the study, do you</p> <p>23 evaluate this is, for instance, the most important</p> <p>24 study and this is the least important study on a</p> <p>25 particular topic?</p>

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<p style="text-align: right;">Page 34</p> <p>1 MS. PARFITT: Objection. Form.</p> <p>2 THE WITNESS: You mean overall or in --</p> <p>3 in each dimension that the -- that a study is</p> <p>4 comprised of?</p> <p>5 BY MS. BRANSCOME:</p> <p>6 Q Did you do any type of ranking of that</p> <p>7 nature, be it in a subtopic or overall?</p> <p>8 A Not -- not explicitly, no.</p> <p>9 Q You mentioned at the -- at the end of</p> <p>10 your answer that you made a decision not to</p> <p>11 exclude studies because you would not want to face</p> <p>12 the criticism of cherry-picking; is that correct?</p> <p>13 A Yes, I said that.</p> <p>14 Q What is your understanding of the</p> <p>15 criticism of cherry-picking?</p> <p>16 A My understanding is that one would --</p> <p>17 one might look at a body of evidence, have a</p> <p>18 preconceived notion about the topic, the</p> <p>19 hypothesis under consideration, and use those</p> <p>20 studies that support that hypothesis and discard</p> <p>21 the other ones in some way.</p> <p>22 Q Is that good science, in your opinion?</p> <p>23 A No, that's not good science.</p> <p>24 Q Why not?</p> <p>25 A Because it doesn't produce an objective</p>	<p style="text-align: right;">Page 36</p> <p>1 conclusion.</p> <p>2 BY MS. BRANSCOME:</p> <p>3 Q When I asked you the question of whether</p> <p>4 or not the methodology you applied here in forming</p> <p>5 your opinion in the MDL is contained in the book</p> <p>6 that you wrote about Risk Factors for Cancer in</p> <p>7 the Workplace, you said it was implicit.</p> <p>8 Is that methodology explicitly described</p> <p>9 in that textbook or any of the other textbooks you</p> <p>10 brought with you today?</p> <p>11 A I'm not sure that the methodology -- you</p> <p>12 know, I think it -- the collection of data, the</p> <p>13 evaluation of data, the judgment about the</p> <p>14 collection of data is a part of the scientific</p> <p>15 method, and it is so engrained and implicit in</p> <p>16 epidemiology and in other sciences that you don't</p> <p>17 really need to -- and scientists don't write in</p> <p>18 their books or in their -- unless they're talking</p> <p>19 to first-year students -- talk about this. It's</p> <p>20 so elementary that those aspects are not really</p> <p>21 described. One goes further in describing</p> <p>22 specific methodologies that would pertain to the</p> <p>23 topic under consideration.</p> <p>24 Q Are there different ways to perform a</p> <p>25 meta-analysis?</p>
<p style="text-align: right;">Page 35</p> <p>1 portrait of reality.</p> <p>2 Q If a scientist were to selectively</p> <p>3 identify studies that were supportive of his or</p> <p>4 her preconceived notion, would you consider that</p> <p>5 analysis to be a valid one?</p> <p>6 MS. PARFITT: Objection. Form.</p> <p>7 THE WITNESS: Do you mean -- just -- I'm</p> <p>8 just trying to parse your question. You said if a</p> <p>9 scientist were to identify studies that were</p> <p>10 supportive, et cetera, but also that were in</p> <p>11 opposition or to exclude ones that are in</p> <p>12 opposition?</p> <p>13 BY MS. BRANSCOME:</p> <p>14 Q Fair enough.</p> <p>15 So referring back to the scenario that</p> <p>16 you have described as cherry-picking --</p> <p>17 A Yes.</p> <p>18 Q -- if a scientist were to engage in</p> <p>19 cherry-picking, would you consider the ultimate</p> <p>20 conclusion that that scientist reached with</p> <p>21 respect to causation or increased risk of an agent</p> <p>22 to be a valid one?</p> <p>23 A It should be suspect --</p> <p>24 MS. PARFITT: Objection. Form.</p> <p>25 THE WITNESS: It would be a suspect</p>	<p style="text-align: right;">Page 37</p> <p>1 A Yes.</p> <p>2 Q Okay. Did the method that you chose in</p> <p>3 developing your meta-analysis, is that explicitly</p> <p>4 described in any of the materials you either</p> <p>5 brought here with you today or of which you are</p> <p>6 aware in the scientific community?</p> <p>7 A So it partly depends what you mean by "a</p> <p>8 meta-analysis." And in my lexicon, meta-analysis</p> <p>9 is a statistical procedure for summarizing a body</p> <p>10 of -- a set of results from individual studies.</p> <p>11 And that procedure is pretty standard -- has been</p> <p>12 pretty standard since the 1980s and 1990s, and</p> <p>13 there are some refinements since then.</p> <p>14 Sorry, I may have lost the thread of</p> <p>15 your question.</p> <p>16 Q If I were to try to look at a piece of</p> <p>17 scientific literature, be it in a book or an</p> <p>18 article, to find a published description of the</p> <p>19 method that you used to perform your meta-analysis</p> <p>20 in the MDL, where would I look?</p> <p>21 A The meta-analysis was conducted using a</p> <p>22 software that is well known, that is commercially</p> <p>23 available, and I think everyone would recognize</p> <p>24 the validity of the statistical procedures under</p> <p>25 those -- under that.</p>

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<p style="text-align: right;">Page 38</p> <p>1 If you're asking about which -- you</p> <p>2 know, there are decisions to be made about which</p> <p>3 studies to include, about which results from</p> <p>4 studies to include, and all of that sort of thing,</p> <p>5 which is not strictly part of the statistics of</p> <p>6 meta-analysis, it's sort of the step before</p> <p>7 meta-analysis, and that part is utterly unique to</p> <p>8 each situation.</p> <p>9 So if you're doing a meta-analysis of</p> <p>10 clinical trials that have all been designed</p> <p>11 basically in an identical way for an</p> <p>12 antihypertensive medication, and whether the study</p> <p>13 is done in Australia or California or Canada, the</p> <p>14 design is pretty standard, and a lot of it can</p> <p>15 be -- you can -- and you end up basically with a</p> <p>16 single result from the study, what is the impact</p> <p>17 on blood pressure -- the average impact on blood</p> <p>18 pressure among people who use it who were given</p> <p>19 the drug, the experimental group versus a</p> <p>20 comparison group, et cetera, that is one type of</p> <p>21 preparation for a meta-analysis.</p> <p>22 If you're dealing with observational</p> <p>23 epidemiology, as we are in the case of ovarian</p> <p>24 cancer, and some of the particularities of the</p> <p>25 literature in this domain, there are a lot of</p>	<p style="text-align: right;">Page 40</p> <p>1 clarify.</p> <p>2 So the three -- the three binders that</p> <p>3 you referred to as sort of this first set of</p> <p>4 materials, are those all references that are</p> <p>5 identified specifically in your report from the</p> <p>6 MDL?</p> <p>7 A Yes, I believe so. And just to be</p> <p>8 clear, when I was sent this material from the</p> <p>9 lawyers' office, it arrived in four binders. I'm</p> <p>10 not sure if you received the same four binders. I</p> <p>11 have re- -- I've taken some things out of there,</p> <p>12 so I have three binders of those things. Just --</p> <p>13 I don't know if there's confusion just between the</p> <p>14 three and four, but...</p> <p>15 Q What did you remove from the set of</p> <p>16 materials that you were provided by plaintiffs'</p> <p>17 counsel?</p> <p>18 A I removed the IARC reports, which I have</p> <p>19 in books, so I didn't need to carry around</p> <p>20 hundreds and hundreds of pages extra.</p> <p>21 I removed some other -- there was</p> <p>22 another report with, you know, thousands of --</p> <p>23 hundreds or -- at least of pages where I thought</p> <p>24 the relevant material was in -- contained in about</p> <p>25 20 pages. So I kept -- in material that I carry</p>
<p style="text-align: right;">Page 39</p> <p>1 decisions that need to be made in the run-up to</p> <p>2 the meta-analysis.</p> <p>3 Q So in the situation where you are</p> <p>4 dealing with observational epidemiology, would it</p> <p>5 be fair to say that you are applying unique</p> <p>6 judgment in the selection of the studies that you</p> <p>7 include in your meta-analysis and, more</p> <p>8 specifically, what data from those studies you</p> <p>9 include.</p> <p>10 MS. PARFITT: Objection. Form.</p> <p>11 THE WITNESS: Any meta-analysis in this</p> <p>12 area would absolutely need to apply professional</p> <p>13 judgments to those things.</p> <p>14 BY MS. BRANSCOME:</p> <p>15 Q Okay.</p> <p>16 A Mine included and every -- everyone</p> <p>17 else's included.</p> <p>18 Q All right. So, Dr. Siemiatycki, getting</p> <p>19 back to the materials that you brought with you</p> <p>20 today, you mentioned that you brought three</p> <p>21 binders of scientific literature. Was that</p> <p>22 correct?</p> <p>23 A Three binders of the references to my</p> <p>24 report.</p> <p>25 Q Okay. So that's what I wanted to</p>	<p style="text-align: right;">Page 41</p> <p>1 around, I kept the 20 pages and put the rest away</p> <p>2 in a box.</p> <p>3 Q Do you remember which document that was?</p> <p>4 A If you give me a minute, I'll try to</p> <p>5 recreate that.</p> <p>6 Q We can check that at the break if you</p> <p>7 want --</p> <p>8 A Yeah. Sure, sure.</p> <p>9 Q -- to identify that document.</p> <p>10 So then you -- you spoke about an</p> <p>11 additional five binders --</p> <p>12 A Yeah.</p> <p>13 Q -- that you brought with you that</p> <p>14 contain documents that might help you answer</p> <p>15 questions during the deposition.</p> <p>16 Can you describe the contents of those</p> <p>17 five binders. I'm trying to avoid marking all of</p> <p>18 these as exhibits.</p> <p>19 A Yeah. Please.</p> <p>20 Okay. Let me just reach down and look</p> <p>21 at their covers.</p> <p>22 Yeah, so one contains the recent</p> <p>23 manuscript of a study by Taher, et al., a Canadian</p> <p>24 meta-analysis of the issue, plus -- let me see if</p> <p>25 there's anything else in there. I -- I think</p>

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<p style="text-align: right;">Page 42</p> <p>1 that's it. It's such a -- such a big report with  2 all the appendices and so on, that it takes up a  3 whole binder.  4 Another one, a smaller one, contains the  5 meta -- the main meta-analyses that have been done  6 in this area, apart from the Taher one. So the  7 Berge, Penninkilampi, a few other older ones,  8 Langseth and some of the older ones.  9 Q Are those materials that are in the set  10 of meta-analysis, the second binder, if you will,  11 are they replicated also in the other set of three  12 binders that you brought with you?  13 A Yes, they are.  14 Q Okay.  15 A Yes, they are.  16 Sorry. There's -- there's another one  17 in -- like that which contains all of the original  18 epidemiology studies that I used or that were  19 available to be used in the meta-analysis. And I  20 had this binder in my previous -- in the previous  21 case that I testified on, and I thought I -- I'd  22 like to have one binder here just of the  23 epidemiology studies because the thick binders,  24 it's harder for me to find articles, so it would  25 be easier for me to find them in this binder. So</p>	<p style="text-align: right;">Page 44</p> <p>1 identification.)  2 BY MS. BRANSCOME:  3 Q Now, Dr. Siemiatycki, with the exception  4 of a copy of your report, which you previously  5 testified has some handwritten annotations on it,  6 do any of the other materials that you brought  7 with you today have any notes, handwritten or  8 typed, or highlighting or any other form of  9 annotation?  10 A Yes. The -- the epidemiology studies  11 and probably the meta-analyses, the previous  12 meta-analyses. I -- I tend to scribble notes when  13 I'm reading an article on the side, so some of  14 those may very well have scribbled notes on -- in  15 the margins or things underlined.  16 Q Dealing first with the binder of the  17 original epidemiological studies that you said you  18 had at a prior deposition, have you annotated that  19 in any way since you brought that to another  20 deposition?  21 A Since today? Sorry.  22 MS. BRANSCOME: Michelle, perhaps you  23 could help me.  24 MS. PARFITT: Sure. Yeah, absolutely.  25 MS. BRANSCOME: Has that specific binder</p>
<p style="text-align: right;">Page 43</p> <p>1 all of these are in the big binders.  2 And there's another one with Health  3 Canada weight of evidence guidelines. Also  4 guidelines from a European agency on weight of  5 evidence and evaluation. I think there might be  6 something from FDA about that, and also some of  7 the information regarding agency -- what agencies  8 have put on their websites, if anything, about  9 talc, which would include the National Cancer  10 Institute and some other agencies.  11 So these are mainly -- well, partly  12 printouts from websites. Partly the Canadian Risk  13 Management scope for talc published very recently  14 from the Canadian Department of Health. And this  15 sort of information. Not -- not all of those are  16 in the thick binders.  17 Q Are all of the documents in the binder  18 that you are holding there, which I think is your  19 fifth binder, are all of those documents  20 identified within your report or in your reference  21 materials?  22 A No.  23 Q I would like to mark that binder as  24 Exhibit 4.  25 (Exhibit No. 4 was marked for</p>	<p style="text-align: right;">Page 45</p> <p>1 been marked as an exhibit at a prior deposition?  2 MS. PARFITT: Let me see which one.  3 Ms. Branscome, I don't want to  4 represent -- and I would tell you that these were  5 all the studies that he's had over the course of  6 the last few years. I can't imagine it wasn't  7 asked for in prior depositions, but I can't -- I  8 can't represent --  9 MS. BRANSCOME: Okay.  10 MS. PARFITT: -- one way or another. I  11 really can't.  12 MS. BRANSCOME: Let's go ahead. I would  13 like to mark the binder --  14 MS. PARFITT: I will tell you this --  15 maybe I can. There are pink numbers, number 10,  16 number 14, which suggest to me that they might  17 have been referenced in a deposition at one point  18 in time as an exhibit.  19 THE WITNESS: Not -- some of them, but  20 not all of them, have those numbers.  21 MS. PARFITT: Okay.  22 THE WITNESS: They also have numbers in  23 the corner of my -- my team's personal filing  24 system of articles, so things like that.  25 MS. BRANSCOME: Out of an abundance of</p>



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<p style="text-align: right;">Page 46</p> <p>1 caution, we will mark the binder that has been</p> <p>2 described as containing the original</p> <p>3 epidemiological studies as Exhibit 5, and the</p> <p>4 binder that contains the meta-analyses as</p> <p>5 Exhibit 6.</p> <p>6 (Exhibit Nos. 5 and 6 were marked</p> <p>7 for identification.)</p> <p>8 BY MS. BRANSCOME:</p> <p>9 Q Did you bring anything else with you to</p> <p>10 the deposition today?</p> <p>11 A Cell phone, glasses, et cetera, but no.</p> <p>12 Q I was provided before the deposition</p> <p>13 began with a single piece of paper that I</p> <p>14 understand to be a bill for professional services.</p> <p>15 If we could mark a copy of that as</p> <p>16 Exhibit 7.</p> <p>17 MS. BRANSCOME: Michelle, I don't know</p> <p>18 if you have an extra copy.</p> <p>19 MS. PARFITT: I do.</p> <p>20 (Exhibit No. 7 was marked for</p> <p>21 identification.)</p> <p>22 MS. PARFITT: I have additional copies</p> <p>23 for counsel, if you would like.</p> <p>24 MS. BRANSCOME: I think we passed one</p> <p>25 around.</p>	<p style="text-align: right;">Page 48</p> <p>1 A Okay.</p> <p>2 Q So why don't we mark as Exhibit 8 the</p> <p>3 bill for professional services that covers the</p> <p>4 month of July.</p> <p>5 (Exhibit No. 8 was marked for</p> <p>6 identification.)</p> <p>7 MS. PARFITT: Sure. I don't have extras</p> <p>8 of those. Does anyone have a clamp? If I could</p> <p>9 have one of those? Thank you.</p> <p>10 MR. TISI: Number 7, for the record, is</p> <p>11 the one that goes to November.</p> <p>12 MS. BRANSCOME: We'll -- we'll clear it</p> <p>13 up.</p> <p>14 MR. TISI: Thank you.</p> <p>15 THE WITNESS: Got it.</p> <p>16 BY MS. BRANSCOME:</p> <p>17 Q So, Dr. Siemiatycki, you have two</p> <p>18 exhibits in front of you there, an Exhibit 7 and</p> <p>19 an Exhibit 8.</p> <p>20 Do they both contain bills for</p> <p>21 professional services for the work that you have</p> <p>22 done in connection with this litigation?</p> <p>23 A Yes, they do.</p> <p>24 Q And what has been marked as Exhibit 7</p> <p>25 covers a work period of August 9th through</p>
<p style="text-align: right;">Page 47</p> <p>1 BY MS. BRANSCOME:</p> <p>2 Q Dr. Siemiatycki, do you recognize the</p> <p>3 document that's been placed in front of you that's</p> <p>4 been marked as Exhibit 7?</p> <p>5 A Yes, I do.</p> <p>6 Q And could you describe for the record</p> <p>7 what this document is.</p> <p>8 A It's a bill for services that I sent to</p> <p>9 Ms. Parfitt dated November 18, 2018, in which I</p> <p>10 billed for work done between August and November</p> <p>11 2018 on the MDL case.</p> <p>12 Q Is it correct that this is a bill that</p> <p>13 covers 56 hours that you billed in connection with</p> <p>14 your work on this case in the month of July</p> <p>15 through August 2nd, 2018?</p> <p>16 A Sorry, do -- July? Is this the same --</p> <p>17 MS. PARFITT: August. I have August to</p> <p>18 November.</p> <p>19 THE WITNESS: Do you have a bill labeled</p> <p>20 July?</p> <p>21 MS. PARFITT: We have July to August,</p> <p>22 and here's the August --</p> <p>23 BY MS. BRANSCOME:</p> <p>24 Q Sorry, we had different pieces of paper,</p> <p>25 Dr. Siemiatycki.</p>	<p style="text-align: right;">Page 49</p> <p>1 November 16th, 2018, during which you billed 136</p> <p>2 hours; is that correct?</p> <p>3 A That's correct.</p> <p>4 Q And then Exhibit 8 covers the period of</p> <p>5 time July 1st through August 2nd, 2018, over which</p> <p>6 you billed 56 hours; is that correct?</p> <p>7 A That's correct.</p> <p>8 Q And you bill for your time at \$450 an</p> <p>9 hour, correct?</p> <p>10 A That's correct.</p> <p>11 Q Do the two bills for professional</p> <p>12 services that have been marked as Exhibits 7 and 8</p> <p>13 contain any time for work done by others at your</p> <p>14 direction?</p> <p>15 A They contain work that has been done by</p> <p>16 a couple of -- by one research assistant, and I</p> <p>17 make an arrangement with her to reimburse her for</p> <p>18 her time. So it's -- it's covered in these, yes.</p> <p>19 Q Okay. And so how is your research</p> <p>20 assistant's time billed to plaintiffs' counsel?</p> <p>21 A It's not billed. I -- I adjust the</p> <p>22 billable hours to reflect the time that she works</p> <p>23 for me.</p> <p>24 Q So if I was looking at Exhibit 7 and</p> <p>25 Exhibit 8, how much in terms of hours of this</p>

13 (Pages 46 to 49)

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<p style="text-align: right;">Page 50</p> <p>1 reflects your personal time?</p> <p>2 A Between 95 percent and 98 percent,</p> <p>3 almost all of it.</p> <p>4 Q And do the two exhibits that you have in</p> <p>5 front of you there, Exhibit 7 and Exhibit 8, does</p> <p>6 that cover all of the work that you have done in</p> <p>7 connection with forming your opinions in this</p> <p>8 case, meaning the MDL?</p> <p>9 A In forming the opinions for the report,</p> <p>10 yes.</p> <p>11 Q These bills do not include time that you</p> <p>12 spent preparing for today's deposition, correct?</p> <p>13 A That's correct.</p> <p>14 Q About how much time have you spent</p> <p>15 preparing for today's deposition?</p> <p>16 A I would say the time since November 18,</p> <p>17 which is referenced here, to today, there were</p> <p>18 actually two components. One was preparing for</p> <p>19 the deposition. Another was a bit of a flurry of</p> <p>20 activity in December, I think it was, when a</p> <p>21 couple of reports from Health Canada and from</p> <p>22 the Taher group were published, and I reviewed and</p> <p>23 tried to think about that information as well.</p> <p>24 So just to be as precise as possible, I</p> <p>25 just want to make that clear. It's not -- it</p>	<p style="text-align: right;">Page 52</p> <p>1 paper and the Health Canada statement?</p> <p>2 A No, I didn't.</p> <p>3 Q Did you annotate any of the materials</p> <p>4 that you reviewed?</p> <p>5 A I'm -- I'm not sure. I typically have a</p> <p>6 pen in my hand when I'm reading, so I couldn't say</p> <p>7 that I never underlined anything or -- I just</p> <p>8 don't recall making any -- and I don't know that I</p> <p>9 could find -- if I did look at it in December, I'm</p> <p>10 not sure I could find that copy because I -- I</p> <p>11 tend to print things over when -- and I -- there</p> <p>12 was nothing written that I wanted to retain. I</p> <p>13 didn't write anything that I have used or -- yeah.</p> <p>14 MS. BRANSCOME: We've been going for a</p> <p>15 little over an hour. Is now a good time to take a</p> <p>16 break?</p> <p>17 THE WITNESS: It's a great time.</p> <p>18 THE VIDEOGRAPHER: We are going off the</p> <p>19 record at 10:55 a.m.</p> <p>20 (Recess.)</p> <p>21 THE VIDEOGRAPHER: This begins disc</p> <p>22 number 2 in the deposition of Jack Siemiatycki.</p> <p>23 We're going back on the record at 11:15 a.m.</p> <p>24 BY MS. BRANSCOME:</p> <p>25 Q Before we took the break,</p>
<p style="text-align: right;">Page 51</p> <p>1 wasn't only preparation. But I -- I guess we're</p> <p>2 talking about a couple of weeks' work in -- since</p> <p>3 November, but between six and ten days maybe,</p> <p>4 something in that ballpark.</p> <p>5 Q And how would -- what would that be in</p> <p>6 terms of hours?</p> <p>7 A Between 40 and 60 hours or -- subject to</p> <p>8 revision, I could -- I could look that up.</p> <p>9 Q Have you billed plaintiffs' counsel for</p> <p>10 that time yet?</p> <p>11 A No, I haven't.</p> <p>12 Q Presumably you will be billing them for</p> <p>13 the time you spend here today during your</p> <p>14 deposition as well, correct?</p> <p>15 A I -- I presume so as well.</p> <p>16 Q You referenced a flurry of activity in</p> <p>17 December related to the Health Canada information</p> <p>18 becoming public.</p> <p>19 Did you produce or generate any type of</p> <p>20 written work product in connection with your</p> <p>21 review of those materials?</p> <p>22 A No, I didn't.</p> <p>23 Q Did you take any notes while reviewing</p> <p>24 the materials that came out in December -- around</p> <p>25 December 2018 related to the Taher manuscript and</p>	<p style="text-align: right;">Page 53</p> <p>1 Dr. Siemiatycki, we were looking at the two bills</p> <p>2 for professional services that have been marked as</p> <p>3 Exhibit 7 and Exhibit 8.</p> <p>4 And so in addition to the 56 hours that</p> <p>5 are on Exhibit 8, the 136 hours on Exhibit 7, and</p> <p>6 the approximately 40 to 60 hours you have spent</p> <p>7 since mid-November of 2018, how much time have you</p> <p>8 spent in connection with your opinions across all</p> <p>9 talc litigation?</p> <p>10 MS. PARFITT: Objection to form.</p> <p>11 THE WITNESS: Including the previous</p> <p>12 case that I was involved in, you're saying?</p> <p>13 BY MS. BRANSCOME:</p> <p>14 Q Yes.</p> <p>15 A Whew. I -- four to six weeks maybe</p> <p>16 or -- I spent, I think, nearly two weeks in LA</p> <p>17 while that case was going on, so that's one big</p> <p>18 block of time. And then I -- at least a month</p> <p>19 full time, the equivalent of, before that. But,</p> <p>20 I'm sorry, I can't be more precise.</p> <p>21 Q What would that be in terms of hours?</p> <p>22 A Hours. Let's say eight hours a day --</p> <p>23 30, 40 -- 400 hours plus or minus 200.</p> <p>24 Q So a range of between 200 to 600 hours,</p> <p>25 do you think?</p>

14 (Pages 50 to 53)



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<p style="text-align: right;">Page 54</p> <p>1 MS. PARFITT: Object.</p> <p>2 THE WITNESS: It would be more than 200</p> <p>3 for sure. So -- to the best of my recollection,</p> <p>4 it might be between 400 and 600. But...</p> <p>5 BY MS. BRANSCOME:</p> <p>6 Q How much have you billed to date for all</p> <p>7 of the work you've done in connection with talc</p> <p>8 litigation?</p> <p>9 A Well, I -- I don't remember.</p> <p>10 MS. PARFITT: Don't guess.</p> <p>11 THE WITNESS: I don't remember a total.</p> <p>12 BY MS. BRANSCOME:</p> <p>13 Q Do you charge \$450 per hour for all</p> <p>14 types of work that you have done in connection</p> <p>15 with the talc litigation?</p> <p>16 A Yes, I do.</p> <p>17 Q Do the fees that you charge in</p> <p>18 connection with your work as an expert witness in</p> <p>19 the talc litigation go directly to you personally?</p> <p>20 A Yes, they do. Well, they go to a</p> <p>21 corporation that -- that I control, as you see in</p> <p>22 the bills.</p> <p>23 Q Do you pay anyone else for the -- using</p> <p>24 the funds that the corporation has received for</p> <p>25 the expert work you've done in connection with the</p>	<p style="text-align: right;">Page 56</p> <p>1 do you currently spend performing work in</p> <p>2 connection with litigation?</p> <p>3 A By presently, can you give me a time</p> <p>4 frame? You don't mean today, I presume. When you</p> <p>5 say -- do you mean in the last year? In the last</p> <p>6 10 years?</p> <p>7 Q Let's say over -- over the past 12</p> <p>8 months, what percent of your professional time was</p> <p>9 spent performing work in connection with</p> <p>10 litigation?</p> <p>11 A Ten to 20 percent ballpark.</p> <p>12 Q And has that percentage of time spent on</p> <p>13 work in connection with litigation changed over</p> <p>14 the past five years, for example?</p> <p>15 A Yes, it's very variable depending on</p> <p>16 requests for participation in litigation. So in</p> <p>17 the past five years, my main contact with</p> <p>18 litigation has been in the ovarian cancer cases,</p> <p>19 but at -- around five years ago, I was also</p> <p>20 working on two other cases in Canada.</p> <p>21 Sorry, what was the question?</p> <p>22 Q Sure. How -- I'll ask a new one.</p> <p>23 How has the percentage of time that --</p> <p>24 A Oh, oh.</p> <p>25 Q -- you spend in connection with work</p>
<p style="text-align: right;">Page 55</p> <p>1 talc litigation?</p> <p>2 MS. PARFITT: Objection. Form.</p> <p>3 THE WITNESS: Yes, when I ask someone to</p> <p>4 do some specific tasks, I pay them for that.</p> <p>5 BY MS. BRANSCOME:</p> <p>6 Q And are the fees that you pay to other</p> <p>7 individuals for tasks that they do in support of</p> <p>8 your work, do those fees get billed to plaintiffs'</p> <p>9 counsel?</p> <p>10 A No, they don't.</p> <p>11 Q Can you give me an approximation of how</p> <p>12 much you have paid to others from the fees you</p> <p>13 have billed to plaintiffs' counsel?</p> <p>14 A In MDL or in total?</p> <p>15 Q In all of the talc litigation.</p> <p>16 A My guesstimate would be that it's in the</p> <p>17 order of 2 or 3 or 4 percent -- maybe 2 percent of</p> <p>18 the total that I've billed.</p> <p>19 Q So it's fair to say that approximately</p> <p>20 96 to 98 percent of all the fees that have been</p> <p>21 billed to plaintiffs' counsel for your work as an</p> <p>22 expert in the talc litigation will come to you</p> <p>23 personally?</p> <p>24 A Yes.</p> <p>25 Q What percent of your professional time</p>	<p style="text-align: right;">Page 57</p> <p>1 done related to litigation changed?</p> <p>2 A Any litigation, right?</p> <p>3 Q Yes.</p> <p>4 A Or -- or talc litigation?</p> <p>5 Q I'll start with all litigation.</p> <p>6 A So it's -- as I said, it's very variable</p> <p>7 from month to month. And -- and -- I mean, I</p> <p>8 guess over the past five years, it has kind of</p> <p>9 averaged out at about 10 percent of my time, 10 to</p> <p>10 20 percent of my time.</p> <p>11 Q And over the past two years, has all of</p> <p>12 the litigation work you've been doing, has that</p> <p>13 been exclusively focused on talc?</p> <p>14 A Yes.</p> <p>15 Q The report that -- sorry, the report you</p> <p>16 prepared in connection with the MDL is not the</p> <p>17 first expert report you have generated with</p> <p>18 respect to a potential link between talc and</p> <p>19 ovarian cancer, correct?</p> <p>20 A That's correct.</p> <p>21 Q You produced a report in connection with</p> <p>22 the talcum powder litigation dated October 4th,</p> <p>23 2016, correct?</p> <p>24 A That's correct.</p> <p>25 Q If you could turn in your binder there</p>

15 (Pages 54 to 57)

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<p style="text-align: right;">Page 58</p> <p>1 to tab 2.</p> <p>2 A In this big binder?</p> <p>3 Q Yes, please.</p> <p>4 Is the document behind tab 2 your expert</p> <p>5 report dated October 4th, 2016, that related to</p> <p>6 the talcum powder litigation?</p> <p>7 A Yes, it is.</p> <p>8 MS. BRANSCOME: I would like to mark</p> <p>9 that as Exhibit 9.</p> <p>10 (Exhibit No. 9 was marked for</p> <p>11 identification.)</p> <p>12 BY MS. BRANSCOME:</p> <p>13 Q The report marked as Exhibit 9 was not</p> <p>14 drafted for a particular case; is that correct?</p> <p>15 A I -- I -- I'd have to defer -- I'm not</p> <p>16 exactly sure sometimes whether these reports refer</p> <p>17 to a specific case or not.</p> <p>18 Q Okay. Let me do it this way: What was</p> <p>19 the question that you were attempting to answer in</p> <p>20 the report that has been marked as Exhibit 9?</p> <p>21 A So the question was the generic question</p> <p>22 of whether there is a causal relationship between</p> <p>23 use of talcum powder products and ovarian cancer.</p> <p>24 Q And specifically, the report marked as</p> <p>25 Exhibit 9, were you looking specifically at</p>	<p style="text-align: right;">Page 60</p> <p>1 specific to the Echeverria case, correct?</p> <p>2 A Correct.</p> <p>3 Q So the expert report that described the</p> <p>4 opinions that you were offering in that case is</p> <p>5 the one that we have just marked as Exhibit 9. Is</p> <p>6 that fair?</p> <p>7 MS. PARFITT: Objection. Form.</p> <p>8 THE WITNESS: I -- I'm -- I'm hesitating</p> <p>9 because I'm not sure what the significance of the</p> <p>10 phrase "the expert report that you offered" is. I</p> <p>11 didn't -- I didn't in a sense offer this report</p> <p>12 for -- at that trial. I testified at that trial,</p> <p>13 and they had this expert report available to them.</p> <p>14 BY MS. BRANSCOME:</p> <p>15 Q Okay. Let me ask it this way: You</p> <p>16 generated an expert report specific to the MDL,</p> <p>17 correct?</p> <p>18 A Yes.</p> <p>19 Q And we are going to look at that --</p> <p>20 A Yes.</p> <p>21 Q -- but that is a report that is dated at</p> <p>22 some point in 2018, correct?</p> <p>23 A Correct.</p> <p>24 Q Did you generate an expert report at any</p> <p>25 time in between the expert report that you</p>
<p style="text-align: right;">Page 59</p> <p>1 perineal or genital use of talc?</p> <p>2 A That was the focus, yes.</p> <p>3 Q Did your 2016 report address any cancer</p> <p>4 risk associated with the inhalation of talc?</p> <p>5 A Not that I recall. It certainly wasn't</p> <p>6 a focus. There may have been some reason to</p> <p>7 allude to that issue, but I can't recall that</p> <p>8 it -- that there was.</p> <p>9 Q Okay. You had your deposition taken on</p> <p>10 December 15th and 16th, 2016, correct?</p> <p>11 A I believe so.</p> <p>12 Q And that deposition was for two specific</p> <p>13 cases, the Oules and the Daniels case, correct?</p> <p>14 A I guess so. But again, I -- that --</p> <p>15 I'm -- I don't recall exactly which cases.</p> <p>16 Q You also have testified at trial in a</p> <p>17 case involving allegations about Johnson's Baby</p> <p>18 Powder, correct?</p> <p>19 A That's correct.</p> <p>20 Q And that was the Echeverria case?</p> <p>21 A Yes, it was.</p> <p>22 Q And you testified in trial in August of</p> <p>23 2017, correct?</p> <p>24 A Correct.</p> <p>25 Q You did not issue an expert report</p>	<p style="text-align: right;">Page 61</p> <p>1 generated there in October 2016 and the expert</p> <p>2 report you have supplied that's dated November</p> <p>3 2018?</p> <p>4 A No, I did not.</p> <p>5 Q All right. So if I may, I would like to</p> <p>6 actually mark your copy of your 2018 report. And</p> <p>7 that will be marked as Exhibit 10, if you have</p> <p>8 that in front of you.</p> <p>9 (Exhibit No. 10 was marked for</p> <p>10 identification.)</p> <p>11 (Counsel conferring.)</p> <p>12 BY MS. BRANSCOME:</p> <p>13 Q To be clear, for the record, I'm marking</p> <p>14 as Exhibit 10 your MDL expert report, but it is</p> <p>15 your copy.</p> <p>16 A Yes.</p> <p>17 Q Okay. And as I understand it, the copy</p> <p>18 that you brought with you here today that's now</p> <p>19 been marked as Exhibit 10 contains some</p> <p>20 corrections. Is that -- is that fair?</p> <p>21 A Yes.</p> <p>22 Q Could you please walk me through the</p> <p>23 corrections that you have made to your 2018 MDL</p> <p>24 report that has been marked as deposition</p> <p>25 Exhibit 10.</p>

16 (Pages 58 to 61)

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<p style="text-align: right;">Page 62</p> <p>1 A Yes. So the first is on page 47. And</p> <p>2 in the first full paragraph that begins with</p> <p>3 "Table 9," on the fourth line --</p> <p>4 Q Let me pause you there for a moment,</p> <p>5 Dr. Siemiatycki. Are we both looking at page 47?</p> <p>6 A Now, I -- I'm not sure whether I printed</p> <p>7 this in a way that is not -- does not correspond</p> <p>8 to the version that you have. I'm sorry. I</p> <p>9 printed this just for my own use, so I didn't --</p> <p>10 Q No, looking at it, it looks similar.</p> <p>11 A Oh, okay.</p> <p>12 Q So why don't you direct me to the</p> <p>13 specific correction. I thought you were referring</p> <p>14 to the image of Table 9.</p> <p>15 MS. PARFITT: No, no. I think we're</p> <p>16 all on the same -- it's the same one you have --</p> <p>17 THE WITNESS: Okay.</p> <p>18 MS. PARFITT: -- on your thumb drives.</p> <p>19 THE WITNESS: Okay.</p> <p>20 BY MS. BRANSCOME:</p> <p>21 Q All right, we'll start again. So,</p> <p>22 Dr. Siemiatycki, if you could identify for me the</p> <p>23 corrections that you are making to your MDL report</p> <p>24 from November 2018.</p> <p>25 A Right. So on page 47, the first full</p>	<p style="text-align: right;">Page 64</p> <p>1 your copy of your report that there were other</p> <p>2 handwritten annotations.</p> <p>3 A Yeah.</p> <p>4 Q Can you please walk me through -- unless</p> <p>5 it's voluminous, in which case we can do it after</p> <p>6 a break -- any notations that you have made in</p> <p>7 your copy of your MDL report.</p> <p>8 A It's not voluminous. I didn't make</p> <p>9 many. One is on page 49. And in the middle of</p> <p>10 the page in italics, there is a misconception</p> <p>11 counting, et cetera, and just before that, I was</p> <p>12 talking about hospital-based studies and</p> <p>13 population-based studies. So the section that</p> <p>14 begins on page 48 is about hospital-based versus</p> <p>15 general population-based studies. And I made a</p> <p>16 note to myself after that -- at the end of that</p> <p>17 section, also --</p> <p>18 I mean, do you want me to quote what I</p> <p>19 wrote?</p> <p>20 Q Yes, please.</p> <p>21 A Sure. I said: "Also the basin for</p> <p>22 hospital controls may differ from the basin for</p> <p>23 cases."</p> <p>24 Q And what did you mean by that?</p> <p>25 A So, you're familiar with the idea, a</p>
<p style="text-align: right;">Page 63</p> <p>1 paragraph, the fourth line, there are some</p> <p>2 numbers. It says "1.25," and then in parentheses,</p> <p>3 there is a 1.0 that was really a literal typo.</p> <p>4 Someone's -- my fingers were too heavy, and the</p> <p>5 one -- the first 1.0 should be dropped, and so the</p> <p>6 correct number is 1.15 to 1.36. Okay?</p> <p>7 The next one -- I'm sorry. Oh, the next</p> <p>8 one is on page 45, so a couple of pages earlier,</p> <p>9 in the second line -- are you with me? -- the</p> <p>10 sentence that begins "While the Terry 2013." It</p> <p>11 should be the Berge -- "While the Berge" -- the</p> <p>12 first Terry -- I'm just thinking out loud again.</p> <p>13 Whether in fact the Terry was the correct --</p> <p>14 anyway, yesterday when I was correcting this</p> <p>15 quickly, I thought that it -- that I had</p> <p>16 miswritten "Terry 2013" in that sentence and that</p> <p>17 it should have been Berge 2018.</p> <p>18 Do you mind if I look at this again at</p> <p>19 lunchtime and just verify which I was referring</p> <p>20 to? I'm now confusing myself about that.</p> <p>21 Q Not a problem. We can come back to that</p> <p>22 after -- either the next break or the lunch break.</p> <p>23 A And that -- those are the only</p> <p>24 corrections I picked up as I was going through it.</p> <p>25 Q I noticed as you were flipping through</p>	<p style="text-align: right;">Page 65</p> <p>1 hospital-based study? There are actually</p> <p>2 different types of hospital-based studies, which</p> <p>3 is something that has not come out in, really, in</p> <p>4 any of the discussion of this literature.</p> <p>5 But one of the problems with hospital-</p> <p>6 based studies is that when you choose a control</p> <p>7 group, let's say for a series of ovarian cancer</p> <p>8 cases from a given hospital, and you go to a</p> <p>9 different ward in that hospital to look for</p> <p>10 controls who are not -- don't have ovarian</p> <p>11 cancer -- the reasons for referral and the -- the</p> <p>12 pattern of patients coming to hospitals differs</p> <p>13 for different diseases. So serious -- it</p> <p>14 generally is the case that serious diseases in</p> <p>15 specialized hospitals tend to come from a wider</p> <p>16 geographic and social area than cases of traffic</p> <p>17 accident injuries or things that are treated in</p> <p>18 general hospitals more easily.</p> <p>19 And if you just take a series of cases</p> <p>20 of ovarian cancer and go to the emergency</p> <p>21 department to choose controls or you go to the GI</p> <p>22 surgery department where they do appendectomies</p> <p>23 routinely or something like that, you're picking</p> <p>24 up populations who are quite different.</p> <p>25 And this is one of the disadvantages of</p>

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<p style="text-align: right;">Page 66</p> <p>1 a hospital-based control strategy, and it's one of  2 the reasons why, in general, epidemiologists favor  3 population-based studies rather than hospital --  4 case control studies, population-based case  5 control studies, rather than hospital-based case  6 control studies, because the cases and the  7 controls -- one of the requisites in a case  8 control design is that the patients -- the cases  9 and the controls should represent the same study  10 base, the same basin of people who if they were  11 cases with the disease in question, ovarian  12 cancer, this is where they would end up, and all  13 of them would end up there.  14 Q Are there any studies that were relevant  15 to your analysis for your MDL report that you  16 think this particular criticism that you have just  17 explained applies to?  18 A I'm not sure. I didn't examine them  19 from that point of view.  20 In this section of my report, it was  21 kind of a generic discussion of the issue of -- of  22 the merits of hospital-based versus population-  23 based studies.  24 Q Okay. Do you have any other annotations  25 that you made in your copy of your MDL report?</p>	<p style="text-align: right;">Page 68</p> <p>1 THE VIDEOGRAPHER: We're going back on  2 the record at 11:41 a.m.  3 BY MS. BRANSCOME:  4 Q Do you have any other annotations there  5 with you on your copy of your report?  6 A No. I have one other green sticky on  7 page 67, but there's nothing written on that page,  8 and I don't remember why I put that sticky there.  9 Q Okay. The report that we just marked as  10 Exhibit 10, does that define the scope of your  11 opinions in the MDL?  12 A The scope of my opinions. It defines my  13 opinions, yes.  14 Q Does it contain all of the opinions that  15 you intend to offer at any trial or hearing in the  16 MDL?  17 A I mean, I guess if I'm asked a question  18 that veers off from something I said in my report,  19 and I address the question, would that be  20 considered going off -- you know, offering an  21 opinion that is not in my report?  22 It's just that -- I'm just not sure  23 about the technicality of your question. I mean,  24 I will offer -- I will answer questions even if  25 they lead off the content of my report.</p>
<p style="text-align: right;">Page 67</p> <p>1 A At the bottom of that same page, 49, I  2 wrote, quote, "Borenstein." And right now I'm --  3 oh, yes. So this misconception about counting the  4 number of statistically significant results as a  5 valid way of assessing consistency of results  6 among different studies is a basic flaw in the  7 conduct and interpretation of how to review a  8 series of studies.  9 It's well known. I've known and I -- I  10 said it in my report that this is absolutely not  11 the way to synthesize evidence from multiple  12 studies, to count the number of significant ones.  13 And in addition to me saying it and many others, I  14 thought that I could -- if you asked me questions  15 about it or challenged my opinion on that score, I  16 could quote the textbook on meta-analysis, which  17 gives some good examples of why that's wrong.  18 MS. PARFITT: Let's stop here for a  19 minute --  20 MS. BRANSCOME: If we could go off the  21 record.  22 MS. PARFITT: -- and go off the record.  23 THE VIDEOGRAPHER: We're going off the  24 record at 11:39 a.m.  25 (Pause.)</p>	<p style="text-align: right;">Page 69</p> <p>1 Q As you sit here today --  2 A Yes.  3 Q -- does the report that has been marked  4 as Exhibit 10 contain all of the opinions that you  5 have formed as of today about which you would  6 intend to testify at trial or a hearing on this  7 matter?  8 A I -- I believe so.  9 Q What was the question that you were  10 asked to answer in connection with the report you  11 generated in 2018?  12 A I guess I -- I'll just refer back to  13 what it says in the report: "Can application of  14 talcum powder products in the perineal region  15 cause ovarian cancer?"  16 Q Is that question different from the  17 question you were answering in your 2016 report?  18 A I -- I don't see them as different.  19 Q You would agree with me, though, that  20 there are differences between the report that you  21 produced in November 2018 and the report that you  22 produced in October 2016?  23 MS. PARFITT: Objection. Form. Vague.  24 THE WITNESS: Yes, there are some  25 differences.</p>

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<p style="text-align: right;">Page 70</p> <p>1 BY MS. BRANSCOME:</p> <p>2 Q When you began drafting the report</p> <p>3 that's been marked there as Exhibit 10, your MDL</p> <p>4 report, did you begin by using your 2016 report as</p> <p>5 an initial draft?</p> <p>6 A Yes. But I also had some ideas about</p> <p>7 new things that I would want to do. Sort of</p> <p>8 coming out of the Echeverria experience, I</p> <p>9 realized that there were -- there were a couple of</p> <p>10 errors in that -- my original report that I wanted</p> <p>11 to correct. There were ways of doing the analyses</p> <p>12 that, on reflection, I thought were not optimal</p> <p>13 and that I could improve on, even if I anticipated</p> <p>14 that the bottom line results would not change</p> <p>15 much. But when I came to actually drafting the</p> <p>16 text, I certainly used the previous report as a</p> <p>17 primary source for revising -- for -- for drafting</p> <p>18 the new one.</p> <p>19 Q You mentioned that you wanted to make</p> <p>20 some modifications because there were things in</p> <p>21 the 2016 report that were either not optimal or</p> <p>22 were errors.</p> <p>23 Were any of the modifications that you</p> <p>24 made done at the suggestion of plaintiffs'</p> <p>25 counsel?</p>	<p style="text-align: right;">Page 72</p> <p>1 sequence, and I use both of them now but in</p> <p>2 different places.</p> <p>3 But -- so is your question, is it</p> <p>4 exactly the same computer that all the files were</p> <p>5 kept on or -- is that the sense of your question?</p> <p>6 BY MS. BRANSCOME:</p> <p>7 Q How about I ask it this way: Can you</p> <p>8 describe for me the process by which you drafted</p> <p>9 your 2018 report that's been marked as Exhibit 10?</p> <p>10 A So I guess there were two parallel</p> <p>11 things going on, or maybe more. One was to do</p> <p>12 some reanalyses of the statistical meta-analysis.</p> <p>13 And so that I initiated at a certain point</p> <p>14 between -- probably in 2018.</p> <p>15 At the same time, and I'm not sure if</p> <p>16 this was after or before the statistical analyses</p> <p>17 were started, I looked at the old draft. I</p> <p>18 reviewed what was there, what I thought were</p> <p>19 weaknesses in the way of expressing things or</p> <p>20 things that could be brought to the report that</p> <p>21 would enhance the clarity or the force of the --</p> <p>22 the exposition, and I started redrafting. So I'm</p> <p>23 not sure if that answers your question.</p> <p>24 Q Did you personally type the words that</p> <p>25 are contained in Exhibit 10?</p>
<p style="text-align: right;">Page 71</p> <p>1 MS. PARFITT: Objection.</p> <p>2 THE WITNESS: No.</p> <p>3 BY MS. BRANSCOME:</p> <p>4 Q So any of the changes that you made</p> <p>5 between your 2016 report and the MDL report in</p> <p>6 2018, were those all at your own prompting?</p> <p>7 A Yes.</p> <p>8 MS. PARFITT: Objection. Form.</p> <p>9 THE WITNESS: Yes.</p> <p>10 BY MS. BRANSCOME:</p> <p>11 Q Did you work in the same computer file</p> <p>12 to draft the 2018 report from start to finish?</p> <p>13 MS. PARFITT: Objection. Form.</p> <p>14 THE WITNESS: You're -- you're referring</p> <p>15 to the text, not the statistical analyses, which</p> <p>16 were done in a separate -- I mean, they -- they --</p> <p>17 the statistical analyses were based on the</p> <p>18 addendum that I presented to you, and those are</p> <p>19 kept on a FileMaker software, which is not on my</p> <p>20 personal computer, but that my assistant has</p> <p>21 access to.</p> <p>22 But as far as the text is concerned --</p> <p>23 yeah, I think it was the same computer, but I've</p> <p>24 changed computers since then, so I'm just</p> <p>25 hesitating because I'm trying to think of the time</p>	<p style="text-align: right;">Page 73</p> <p>1 A All -- maybe all of them, and maybe</p> <p>2 there were some paragraphs that I handwrote</p> <p>3 because I was on a plane or a train, and when I</p> <p>4 got back to the office, I asked someone to type up</p> <p>5 that paragraph or two. But basically it was done</p> <p>6 by me.</p> <p>7 Q And did you save draft versions along</p> <p>8 the way?</p> <p>9 MS. PARFITT: Objection. Form.</p> <p>10 THE WITNESS: Not really. Not --</p> <p>11 certainly not systematically. I didn't see any</p> <p>12 reason to save discarded versions of things.</p> <p>13 Yeah.</p> <p>14 BY MS. BRANSCOME:</p> <p>15 Q Did you conduct a new literature review</p> <p>16 in connection with the 2018 report?</p> <p>17 A I knew that I had all of the literature</p> <p>18 that was pertinent and published as of 2016.</p> <p>19 Updating what was available was partly done by</p> <p>20 asking my research assistant to do a PubMed search</p> <p>21 of anything new on the topic; asking the lawyers</p> <p>22 if they had come across anything new in the past</p> <p>23 year; my own antenna of knowing a lot of</p> <p>24 epidemiologists and people who work in this area,</p> <p>25 whether they are aware of anything. So sort of an</p>

19 (Pages 70 to 73)



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<p style="text-align: right;">Page 74</p> <p>1 informal updating process from many branches.  2 Q Did plaintiffs' counsel provide you with  3 studies that had come out since you had generated  4 your 2016 report?  5 A I think they sort of pointed me to a  6 couple of things that I didn't have at the time.  7 I think one was the Penninkilampi review.  8 We're talking about the epidemiology  9 literature or everything? Because the  10 epidemiology literature I was pretty much in  11 control of through my networks and my people and  12 so on.  13 The stuff that I asked counsel to help  14 with was identifying literature in the areas of  15 toxicology, composition of talcum powder products,  16 mechanistic research that would bear on the issue.  17 So I asked them if they would provide me any new  18 data that they had available on those topics.  19 Q Do you consider yourself an expert in  20 toxicology?  21 A No. I'm sufficiently familiar to be  22 able to integrate the expertise of -- of real  23 experts.  24 Q Do you consider yourself an expert on  25 the composition of talc?</p>	<p style="text-align: right;">Page 76</p> <p>1 statistical analysis for your meta-analysis?  2 A It's -- I think it's called  3 Meta-Analysis, but -- it's called Comprehensive  4 Meta-Analysis, Version 3. It's listed in my  5 report on page 34.  6 Q And is that the only software that you  7 used to perform the statistical analyses in your  8 report?  9 A It's the only software that I used to  10 perform the meta-analyses. Are there any other --  11 I'm just trying to think if there are any other  12 analyses in the report besides meta-analyses or  13 statistical.  14 There were a couple of studies, and I --  15 I couldn't point them out just this minute, that  16 did not provide full information allowing -- that  17 didn't provide full information on odds ratios or  18 relative risks in a format that was useful for the  19 meta-analysis. And -- but they did provide the  20 numbers of cases and controls who were exposed and  21 unexposed. And that would typically -- I think in  22 at least one instance, maybe two, but at least one  23 instance, there was a situation where they  24 provided odds ratio estimates in different  25 categories of usage of talc or either different</p>
<p style="text-align: right;">Page 75</p> <p>1 A No.  2 Q And do you consider yourself an expert  3 on potential biological mechanisms of the  4 development of ovarian cancer?  5 A No.  6 Q Other than being aware of the opinions  7 of others in those particular fields, are you  8 offering any expert opinions in toxicology, the  9 composition of talc, or the biological mechanism  10 by which ovarian cancer may develop?  11 A I'm --  12 MS. PARFITT: Objection. Form.  13 Go ahead.  14 THE WITNESS: I'm -- I reviewed the  15 information that I was provided, and I took note  16 of the types of evidence that are available in  17 those domains, and I used it mainly in thinking  18 about biological plausibility of the association.  19 It -- those areas of evidence did not in any way  20 influence my opinions about the strength and  21 consistency and so on of the epidemiological  22 evidence.  23 BY MS. BRANSCOME:  24 Q Did you -- oh, before I forget, what is  25 the name of the software that you used to do the</p>	<p style="text-align: right;">Page 77</p> <p>1 durations or different amounts used per day or  2 something like that, but didn't summarize that in  3 an overall ever-used-it-at-all versus  4 never-used-it, which was what I was looking to use  5 in the meta-analysis.  6 And I think in those -- in that  7 instance, I did almost a hand calculation.  8 Because it's pretty straightforward how you do  9 this, just re- -- picking the numbers in their  10 tables and recalculating the overall odds ratio.  11 But this is a few years ago, and I --  12 I -- I would have to go back and review that, but  13 it was -- I think in the other meta-analyses,  14 Berge and Penninkilampi, which were carried out  15 completely independently of mine, and I didn't  16 know about theirs, I think they had to do  17 something similar and arrived at the same answers.  18 So -- but, no, I mean there was no -- no  19 other statistical package used. That kind of  20 calculation can be done by hand.  21 Q How would -- how would I, if I'm looking  22 at your report, identify which studies you  23 actually calculated the odds ratio or relative  24 risk that you input into your meta-analyses?  25 A I -- I -- I'd have to look at it at</p>

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<p style="text-align: right;">Page 78</p> <p>1 lunchtime, if you don't mind, and see if there was 2 one. 3 There was one. I don't know if that was 4 retained in the end or if -- I'm sorry. It's -- 5 Q When you say you don't know if a study 6 was retained in the end, are there studies that 7 you considered including in your meta-analysis and 8 ultimately did not? 9 A Only if they didn't provide evidence on 10 the relationship between talcum powder used in the 11 perineal area and ovarian cancer. 12 Q All right. If you wouldn't mind looking 13 at that at lunch, we will come back -- 14 A Yes. Thank you. 15 Q -- to that after the lunch break. 16 THE WITNESS: Someone make a note for 17 me. 18 BY MS. BRANSCOME: 19 Q Did you -- 20 MS. PARFITT: Yes, a note. 21 BY MS. BRANSCOME: 22 Q Did you personally conduct the 23 meta-analysis that was performed as part of your 24 2018 report? 25 A No, I did not do the --</p>	<p style="text-align: right;">Page 80</p> <p>1 from one to another was perfectly in line with 2 what I would expect. 3 Furthermore, the results that we 4 obtained are almost identical to the results that 5 others have independently obtained doing 6 meta-analyses on these topics using basically the 7 same studies. Sometimes the difference of -- 8 minor differences of which result from each study 9 they selected, but basically the results are so 10 similar that I'm confident that there was no 11 glitch. 12 Q Did you save the results of these 13 sensitivity analyses? 14 A Do you mean the output from the computer 15 software for each one? Is that what you're -- 16 Q Is there any way from the materials that 17 you have produced in connection with your report 18 for someone to replicate the sensitivity analyses 19 that you performed? 20 MS. PARFITT: Objection. Form. 21 THE WITNESS: Well -- I reproduced in 22 the report a few plots of -- that come straight 23 out of the program. So for those, it's absolutely 24 replicatable. Anybody can then go to the package 25 and put -- punch in the same input, and they'll --</p>
<p style="text-align: right;">Page 79</p> <p>1 Q Who did that? 2 A My student. 3 Q And what is your student's name? 4 A Mengting, M-E-N-G-T-I-N-G, Xu, X-U. 5 Q And -- and what are -- is it Mr. or 6 Dr. Xu? 7 A It's -- she's a Ph.D. student at the 8 moment. She will be a doctor. 9 Q What are her qualifications for 10 conducting a meta-analysis? 11 A She is very skilled at statistical 12 analyses and at -- at computer packages. I'm not 13 sure if she's taken a course in meta-analysis 14 specifically, but it's not rocket science to do 15 that with a package like the one we have. 16 Q Did you verify that the meta-analysis 17 was performed correctly using the software? 18 A I looked at the results in various ways 19 to assure myself that everything looked good. By 20 looking good, I mean that there was internal 21 coherence, like she carried out many different 22 meta-analyses under different conditions and -- 23 not different conditions, but including some 24 studies and excluding studies -- these are called 25 sensitivity analyses -- and the pattern of results</p>	<p style="text-align: right;">Page 81</p> <p>1 they'll get the same output. For the -- I didn't 2 do that for every single sensitivity analysis, 3 just for economy -- to save the reader the burden 4 of that. But I'm pretty sure -- I'm pretty sure 5 that Mengting kept files of each of those 6 analyses. 7 BY MS. BRANSCOME: 8 Q Did anyone else -- you mentioned a 9 research assistant helped you with PubMed 10 searches. Who was the research assistant? 11 A She's a woman, who was with me for 30 12 years or so, who was basically the bibliographic 13 expert in our team and helped people find articles 14 and do things necessary, like PubMed searches and 15 so on. So she -- while she was here -- she 16 retired a year or so ago. While she was here, I 17 asked her to look at the ovarian cancer/talc 18 thing, and she dug out some -- she found some 19 articles for me. 20 Q Is that Sally Campbell? 21 A Yes, it is. 22 Q Okay. After Ms. Campbell retired, did 23 anyone else help you perform literature searches? 24 A Not in a routine way for sure. If I 25 wanted to find a specific article that I knew</p>



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<p style="text-align: right;">Page 82</p> <p>1 about, I would typically ask my student Mengting</p> <p>2 to dig it out and print it for me.</p> <p>3 Q So in addition to Ms. Campbell and</p> <p>4 Ms. Xu --</p> <p>5 A Xu, yes.</p> <p>6 Q -- did anyone else help prepare the</p> <p>7 materials that are in your 2018 report?</p> <p>8 A Yes. So I have another research</p> <p>9 assistant who's been with me even longer than</p> <p>10 Sally Campbell, who retired a month ago, and her</p> <p>11 name is Lesley Richardson. And she set up and</p> <p>12 maintained the database system in which we</p> <p>13 integrated all of the results that are in that</p> <p>14 addendum that I provided you, and that involved</p> <p>15 reviewing each article and taking every single</p> <p>16 result and plugging it into this software.</p> <p>17 Q Did Ms. Richardson exercise any of her</p> <p>18 own judgment in selecting which data to include in</p> <p>19 the meta-analyses?</p> <p>20 A The instruction was to extract</p> <p>21 everything. Simple instructions can become</p> <p>22 difficult in operation. And some of the</p> <p>23 frustration in this area and some of the reason</p> <p>24 why there is some variability in which studies and</p> <p>25 which results are included in different</p>	<p style="text-align: right;">Page 84</p> <p>1 Q Okay. And you mentioned reviewing the</p> <p>2 materials that came out in connection with Health</p> <p>3 Canada and the Taher manuscript, and we'll talk</p> <p>4 about that in more detail, but did anything you</p> <p>5 reviewed since the production of your 2018 report,</p> <p>6 has any of that changed your opinions or any of</p> <p>7 the information that is contained in your MDL</p> <p>8 report?</p> <p>9 A It doesn't really change anything. I</p> <p>10 would say that the Health Canada report reinforces</p> <p>11 the notion that this issue is becoming a front</p> <p>12 burner issue for public health agencies. But</p> <p>13 it -- since I didn't explicitly address that</p> <p>14 question in my report, I would say it doesn't</p> <p>15 change anything that's in my report.</p> <p>16 Q Do you intend to offer expert opinions</p> <p>17 about the different positions of the different</p> <p>18 public agencies and the relative importance of a</p> <p>19 potential connection between talc and ovarian</p> <p>20 cancer?</p> <p>21 MS. PARFITT: Objection. Form.</p> <p>22 THE WITNESS: Did I intend -- while</p> <p>23 writing my report, do you mean, to make -- no. I</p> <p>24 don't think that those agencies and those</p> <p>25 positions necessarily reflect the most up-to-date</p>
<p style="text-align: right;">Page 83</p> <p>1 meta-analyses occur because authors are sometimes</p> <p>2 cryptic about what they say about their data and</p> <p>3 their results. And specifically things like what</p> <p>4 kind of talc use a certain table describes is not</p> <p>5 always perfectly clear.</p> <p>6 And so she would need to make a judgment</p> <p>7 sometimes as to whether this result pertained to</p> <p>8 all use of talc in the perineal area or only</p> <p>9 powdering, excluding sanitary napkins or other --</p> <p>10 sometimes it -- there's ambiguity in the write-up</p> <p>11 of these things that therefore requires --</p> <p>12 required some judgment on her part. And several</p> <p>13 of these things she would ask my opinion about,</p> <p>14 and we would discuss it and say, Well, it looks</p> <p>15 like this or it looks like that, and let's go with</p> <p>16 this interpretation.</p> <p>17 Q Okay. And at the end of the day,</p> <p>18 despite receiving help from others in developing</p> <p>19 your 2018 report, do you personally stand behind</p> <p>20 everything that is in the report?</p> <p>21 A Yes. Barring more typos. I know that</p> <p>22 every time I look at anything I've ever written</p> <p>23 or, you know, things that are expressed not in the</p> <p>24 most clear way. But, yes, I stand behind</p> <p>25 everything.</p>	<p style="text-align: right;">Page 85</p> <p>1 science, and I think the most up-to-date science</p> <p>2 is in the science community through publications</p> <p>3 and so on, and public health policies tend to lag</p> <p>4 behind scientific knowledge.</p> <p>5 BY MS. BRANSCOME:</p> <p>6 Q Are there instances where public health</p> <p>7 policies are more conservative than the scientific</p> <p>8 literature out of sort of a principle of</p> <p>9 precaution?</p> <p>10 MS. PARFITT: Objection. Form.</p> <p>11 THE WITNESS: Sorry, I'm not sure I</p> <p>12 understand the question.</p> <p>13 BY MS. BRANSCOME:</p> <p>14 Q Sure.</p> <p>15 Are there examples where the public</p> <p>16 health policy is actually, for instance, more</p> <p>17 protective than the science might support because</p> <p>18 the public health agency is exercising an</p> <p>19 abundance of caution?</p> <p>20 MS. PARFITT: Objection. Form.</p> <p>21 THE WITNESS: I -- I believe so. I</p> <p>22 mean, I've not done any kind of survey of how</p> <p>23 public health policy in, you know, Sweden over</p> <p>24 Argentina or everywhere -- you're talking about</p> <p>25 generally in the world public health or are you</p>

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<p style="text-align: right;">Page 86</p> <p>1 talking about United States or -- but I -- I</p> <p>2 imagine there are instances like that, and I think</p> <p>3 there is a strand in public health to be</p> <p>4 precautionary in developing policies. But I'm not</p> <p>5 sure it's universal. I just don't know.</p> <p>6 BY MS. BRANSCOME:</p> <p>7 Q You have a References section in your</p> <p>8 report. It begins at page 109, if you need to</p> <p>9 refer to it.</p> <p>10 How did you maintain all of the</p> <p>11 documents that are identified under that list?</p> <p>12 It's quite voluminous.</p> <p>13 A So let me --</p> <p>14 Q And by that, I mean did you keep hard</p> <p>15 copies? Do you keep electronic copies?</p> <p>16 A Okay. So the first thing I'll point out</p> <p>17 is that I deliberately didn't call it a reference</p> <p>18 section. You'll see that it's called a</p> <p>19 Bibliography.</p> <p>20 Q Could you turn to page 109 in your</p> <p>21 report.</p> <p>22 A That -- that's where I am.</p> <p>23 Q Could you turn to the page right before</p> <p>24 that.</p> <p>25 A Oh. Ah, yes, I see that.</p>	<p style="text-align: right;">Page 88</p> <p>1 A So, yeah, yeah.</p> <p>2 Q -- Dr. Siemiatycki, is how -- how do you</p> <p>3 maintain all of the documents that are listed in</p> <p>4 your reference section? Do you main hard copies?</p> <p>5 Do you keep electronic copies?</p> <p>6 A It's a bit of a mix and match of</p> <p>7 electronic and hard copies. And these are all the</p> <p>8 materials that were collected over the years, you</p> <p>9 know, I would say from the beginning of my</p> <p>10 involvement in the previous trial and so on, that</p> <p>11 concern talc and ovarian cancer, including</p> <p>12 materials that were provided by the lawyers and</p> <p>13 materials that we found.</p> <p>14 I prefer to work with paper -- I prefer</p> <p>15 to read paper, but at a certain point, that gets</p> <p>16 overwhelming, and the material -- I can't tell you</p> <p>17 right now for sure that everything here is -- that</p> <p>18 I have it electronically in a file or that I have</p> <p>19 it in paper.</p> <p>20 Q There are different sections of your</p> <p>21 References section. You have Bibliography Part A,</p> <p>22 B, so on and so forth. Who made the decision of</p> <p>23 which articles or documents fell into which of</p> <p>24 the -- of each category?</p> <p>25 A I -- I guess I made it, but it was</p>
<p style="text-align: right;">Page 87</p> <p>1 Q What is the page -- you have that as</p> <p>2 page 108?</p> <p>3 A Yes, I have that page with the word</p> <p>4 "References" on page 108. Section 16.</p> <p>5 Q Perhaps we could check at the break. My</p> <p>6 page numbering got off of yours at some point.</p> <p>7 A Okay.</p> <p>8 Q But in any event, you do have a</p> <p>9 Section 16 that's titled "References," correct?</p> <p>10 A Yes. Yes, I do. I do.</p> <p>11 Okay. My -- my conscious volition was</p> <p>12 to call this a bibliography, and the word</p> <p>13 "references" got in -- into the heading of this</p> <p>14 section.</p> <p>15 And the reason for that distinction is</p> <p>16 that I have not -- not everything that is listed</p> <p>17 is referred to in the text of my report. So</p> <p>18 technically speaking, a reference section should</p> <p>19 be those materials that you refer to in your</p> <p>20 report. And this is not what I have here. And</p> <p>21 that's why I -- consciously I wanted to call this</p> <p>22 a bibliography, and somehow the word "references"</p> <p>23 got -- when they -- when we were compiling it --</p> <p>24 anyways.</p> <p>25 Q Okay. So my question again --</p>	<p style="text-align: right;">Page 89</p> <p>1 pretty self-evident. The material in Part A is</p> <p>2 material that is generally publicly available.</p> <p>3 It's easy to identify that. And the materials in</p> <p>4 Part B is material that is not publicly available.</p> <p>5 And all of that came from the lawyers, I think.</p> <p>6 Q So that was going to be one of my</p> <p>7 questions. Did all of the materials identified in</p> <p>8 Bibliography Part B come to you from plaintiffs'</p> <p>9 counsel?</p> <p>10 A Okay. So let me look through this</p> <p>11 quickly.</p> <p>12 MS. PARFITT: Mm-hmm. Go ahead.</p> <p>13 THE WITNESS: (Peruses document.)</p> <p>14 I think so. I -- I think all of it came</p> <p>15 from plaintiffs' counsel.</p> <p>16 BY MS. BRANSCOME:</p> <p>17 Q I'm not going to ask you about all of</p> <p>18 these, but I noticed on page, at least in my copy,</p> <p>19 135, maybe 134 on yours, there's reference to the</p> <p>20 Berg v. Johnson &amp; Johnson case.</p> <p>21 Do you see that?</p> <p>22 A Yes, I see that.</p> <p>23 Q What relevance is it to you as an</p> <p>24 epidemiologist evaluating the potential risk of</p> <p>25 ovarian cancer from perineal use of talc to look</p>

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<p style="text-align: right;">Page 90</p> <p>1 at the final jury instructions, judgment, and 2 verdict form from the Berg case? 3 A I'm not sure. I relied on plaintiffs' 4 counsel to decide what they thought it would be 5 pertinent for me to be aware of. So these were 6 documents that they thought would be pertinent for 7 me to -- to be aware of, and I can't say why, and 8 I don't remember -- frankly, I don't remember 9 these documents. 10 Q As a scientist, do you typically 11 consider jury instructions in forming an opinion 12 with respect to risk of the use of a product in 13 epidemiology? 14 MS. PARFITT: Objection. 15 THE WITNESS: Outside of a legal -- no, 16 we wouldn't have access to it or -- no, it never 17 comes up. 18 BY MS. BRANSCOME: 19 Q As you sit here today, can you come up 20 with any reason why the jury instructions in a 21 case would be relevant to you in evaluating the 22 question you were asked to answer, which is 23 whether or not there is a risk of ovarian cancer 24 from the perineal use of talc? 25 MS. PARFITT: Objection. Form.</p>	<p style="text-align: right;">Page 92</p> <p>1 informative of your opinions? 2 A No. There's no way for anyone else to 3 know that. 4 Q Okay. Did you ask plaintiffs' counsel 5 for specific company documents, using that term 6 loosely, to refer to documents that are kept 7 internally within the various companies at issue 8 in this litigation? 9 A I asked to be sent any information they 10 had about the composition of talcum powder 11 products, historically as well as currently, but 12 actually mainly historic -- I was mainly 13 interested to know what was the history of the 14 composition of talcum powder products. 15 And so many of these materials that they 16 sent me -- and I can't tell you which ones because 17 I don't identify them with these obscure numbers, 18 they don't mean anything to me -- but some of them 19 dealt with internal company documents or internal 20 reports that discussed different types of talc -- 21 of powdering products, whether talc products or 22 cornstarch products in different eras, when they 23 started and when, what the market share was in 24 different eras. So I was interested in that to 25 get a sense of what were the women exposed to who</p>
<p style="text-align: right;">Page 91</p> <p>1 THE WITNESS: You're asking me to 2 speculate as to why plaintiffs' counsel would have 3 sent this to me? 4 BY MS. BRANSCOME: 5 Q I'm asking -- 6 A Is that what you're asking? 7 Q I'm asking if you, as the scientist 8 whose name is on this expert report, can you think 9 of any reason why that would be informative to you 10 as a scientist? 11 A If I had it in front of me, I might 12 recognize something in there that would make it 13 relevant. But I -- I don't know what is typically 14 in such jury instructions. I don't know how -- 15 what the sweep is of those things. I'm just not 16 sure. So I -- I can't answer the question. 17 Q As you sit here today, do you recall 18 reading the final jury instructions from Berg -- 19 A I don't -- 20 Q -- v. Johnson &amp; Johnson? 21 A I don't actually recall reading it. 22 Q Okay. So is there any way for someone 23 reviewing your report to identify within the 24 reference section, Part B, which of these 25 documents you, Dr. Siemiatycki, found relevant and</p>	<p style="text-align: right;">Page 93</p> <p>1 were part of these epidemiologic studies. 2 Q Do you rely on any of the information 3 that you obtained from documents in Part B of your 4 reference list as a basis for forming your expert 5 opinion in the MDL? 6 A No. No. 7 Q Have you viewed any of the deposition 8 transcripts of the depositions that have been 9 taken in the MDL? 10 A I have looked at a few of them. 11 Q And which deposition transcripts have 12 you reviewed? 13 A Plunkett, McTiernan, is it? And Singh. 14 Not fully -- not the entire transcripts, but 15 portions thereof. Blount. I've seen excerpts 16 from, is it, Hopkins? And a table from Pier, but 17 not the full text. I didn't review the full text 18 -- transcript. There may be one or two more, and 19 I can't recall right now. 20 Q Okay. Focussing specifically on the 21 expert deposition transcripts from the MDL, did 22 you ask specifically for Drs. Plunkett, McTiernan 23 and Singh's deposition transcripts? 24 A I didn't know who the other experts 25 were, so I didn't ask for them by name. And I</p>

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<p style="text-align: right;">Page 94</p> <p>1 think that I asked if they could share with me 2 transcripts of depositions and reports. So I also 3 had some of the reports from those experts. I'm 4 not sure I had all of them but at least some of 5 them. 6 Q Well, what materials had you reviewed 7 with respect to other experts in the MDL before 8 you completed your report that we've marked as 9 Exhibit 10? 10 A None. All of what I've just described 11 was after I completed my report. 12 Q Did you rely on the work or opinions of 13 any other expert witnesses in forming your own 14 opinions in the MDL? 15 A No, I don't think I did. 16 Q So understanding that more depositions 17 have been taken than just Drs. Plunkett, McTiernan 18 and Singh, what specifically was your request to 19 plaintiffs' counsel for which deposition 20 transcripts you would like to see? 21 MS. PARFITT: Objection. Asked and 22 answered, form. 23 THE WITNESS: I'm not sure if my request 24 was to see the ones that they thought were most 25 relevant to -- to me or whether I specifically</p>	<p style="text-align: right;">Page 96</p> <p>1 I specifically asked at some point to be provided 2 with information that would inform on the presence 3 of asbestos fibers in talcum powder products. 4 BY MS. BRANSCOME: 5 Q Did you review that material before 6 completing your MDL report? 7 MS. PARFITT: Do you understand the 8 question? 9 THE WITNESS: Yeah. 10 Yes, I think I did look at that before 11 completing my report. 12 BY MS. BRANSCOME: 13 Q When you say the asbestos is an issue 14 that has come up in the last few months, what do 15 you mean by that? 16 A Well, my understanding back in 2016, 17 '17, was that while asbestos had been detected in 18 talcum powder products as far back as the '70s -- 19 1970s, there was an industry directive or promise 20 or instruction that they would somehow get rid of 21 the problem of asbestos contamination. 22 Q And what was your basis for that 23 understanding? 24 A I guess things I've read, and possibly 25 in some of the company documents, possibly in</p>
<p style="text-align: right;">Page 95</p> <p>1 said the epidemiology ones, but I think probably 2 the former, because they sent me, for example, 3 Dr. Plunkett, who is not an epidemiologist. Yeah. 4 BY MS. BRANSCOME: 5 Q Which expert reports have you reviewed 6 that are from the MDL? 7 A I looked at the Plunkett report. I 8 think I looked at the Singh and the McTiernan 9 report. But just dipping into it, not -- not 10 reading it fully. Yeah. 11 Q Any other reports? 12 A Not that I recall offhand. 13 Q Okay. The Blount transcript, the 14 Hopkins transcript, and the table from Julie 15 Pier's deposition, were those items that were 16 provided to you by plaintiffs' counsel? 17 A Yes. 18 Q Did you request them specifically or 19 were they simply given to you? 20 MS. PARFITT: Objection. Form. 21 THE WITNESS: I requested them to 22 provide me with information that would help me to 23 understand the issue. And one of the issues that 24 has come up in the past few months was the issue 25 of asbestos in talcum powder products, and I think</p>	<p style="text-align: right;">Page 97</p> <p>1 publications. I think there have been various 2 publications that have said so that have -- and I 3 can't right now point to those, but that for the 4 last 10 or 20 years have said that asbestos 5 contamination may have been a problem up to the 6 1970s, but that the industry has basically managed 7 to eliminate that contamination. So I've read 8 that, and it seemed to be repeated often enough 9 that I came to take it as a fact. 10 And then I received some -- I guess I 11 received some reports from plaintiffs' counsel of 12 some new studies carried out more recently in 13 the -- by Longo and his team, and some others, put 14 in question whether asbestos fibers were present 15 in talcum powder products. And so this caused me 16 to revisit that whole thing. 17 My opinions offered in 2016, '17, about 18 talc and ovarian cancer were premised on the 19 assumption that whereas there may have been some 20 contamination up to the 1970s, it was basically a 21 nonissue after the 1970s. So the opinions I 22 expressed in -- in 2016, '17, were independent of 23 any hypotheses about asbestos in talc. 24 When I saw the reports from Longo and 25 maybe others in the fall -- I think it was in the</p>

25 (Pages 94 to 97)

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<p style="text-align: right;">Page 98</p> <p>1 fall of 2018, I specifically asked counsel to  2 provide me with other information that they had,  3 and I made a point of saying, you know, Are there  4 studies that contradict these -- is there evidence  5 that contradicts these evidence -- these claims of  6 asbestos contamination? And they sent me some  7 material at that point.  8 Q Okay. The work that Dr. Longo had  9 conducted with respect to analyzing talcum powder  10 products, to your knowledge, has that ever been  11 published?  12 A I'm not sure. I -- to my knowledge, no,  13 but maybe it has been. I don't know.  14 Q Okay. What were you -- when you  15 referred to the study that Dr. Longo conducted,  16 what -- are you referring to the work that he has  17 done in connection with litigation on behalf of  18 plaintiffs' counsel?  19 A I'm referring to a few reports that I  20 think are dated or -- not -- 2017, 2018. I guess  21 they're connected to litigation, but I'm -- I'm  22 not absolutely certain of that. But those are --  23 that's what I'm referring to.  24 Q Separate and apart from your role as an  25 expert witness, when you're evaluating a</p>	<p style="text-align: right;">Page 100</p> <p>1 of the investigators. I know many of the people  2 in the area that I work in, and I can -- often  3 have a gut feeling about the quality of their  4 work.  5 Q Do you know anything about Dr. Longo's  6 qualifications such that you could render an  7 opinion about the quality of his work?  8 A It's in a different area than mine, so  9 the answer is I -- I couldn't render an opinion  10 about it.  11 Q When you asked for evidence that might  12 contradict the work that Dr. Longo had done in  13 connection with litigation, what specifically were  14 you provided by plaintiffs' counsel?  15 A I'm sorry, without digging around and  16 looking at e-mail exchanges, offhand I can't tell  17 you. I was provided with a batch of -- of  18 documents. I can't remember how many were on one  19 side or the other side. I remember there -- well,  20 in my report I refer to a few pieces of evidence  21 that -- yes. So -- can I -- well, on page 30 in  22 my copy --  23 Q Okay.  24 MS. PARFITT: Why don't you give the  25 category, the title.</p>
<p style="text-align: right;">Page 99</p> <p>1 scientific question, do you typically consult  2 expert reports that are generated for purposes of  3 litigation?  4 MS. PARFITT: Objection. Form.  5 THE WITNESS: I would -- if I had  6 access -- I mean, usually we don't know about such  7 reports if we're not in the litigation process.  8 So it's a hypothetical question, I guess. It --  9 it just doesn't come up in reality that I would be  10 looking at carcinogenicity of diesel engine  11 emissions, and I would have access to reports  12 produced in litigation that are not published.  13 I -- I don't know that I -- I wouldn't have access  14 to such information unless I was part of the  15 litigation. But...  16 BY MS. BRANSCOME:  17 Q Okay. When you're evaluating scientific  18 literature, do you place a different amount of  19 weight on a study that has been peer reviewed as  20 compared to one that has not?  21 A Yes, it's one of the considerations.  22 Q Okay. And --  23 A There -- there are many considerations  24 that I weigh, including my knowledge of and  25 evaluation of the skill and reputation and quality</p>	<p style="text-align: right;">Page 101</p> <p>1 THE WITNESS: Oh, the -- so it's in  2 Section 5.3.2, "What were women exposed to in body  3 powders?"  4 BY MS. BRANSCOME:  5 Q Were you provided, for example, with the  6 expert reports generated by the expert retained by  7 Johnson &amp; Johnson and Imerys to rebut Dr. Longo's  8 report?  9 A Can you give me the author's name or --  10 Q Sure. Were you provided any reports by  11 Dr. Matthew Sanchez?  12 A I don't recall. I don't recall that.  13 Q Are you offering an expert opinion about  14 the contents of any of the talcum powder products  15 sold or manufactured by Johnson &amp; Johnson?  16 A I only take note of what has been  17 provided in the various documents I have access  18 to.  19 Q What does that mean?  20 A It means -- can I read the sentence?  21 Basically, I think it summarizes what I mean. And  22 I'll start -- so I'll start on the sentence that  23 on my copy is on the bottom of page 29, still in  24 that Section 5.3.2.  25 "So representatives of the industry have</p>



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<p style="text-align: right;">Page 102</p> <p>1 claimed that talcum powders were free of asbestos  2 fibers since the 1980s" -- and there are a couple  3 of references there --  4 MS. PARFITT: Read them.  5 THE WITNESS: "Hopkins 2018, Pier 2018.  6 -- "but this assertion has increasingly  7 come under doubt as a number of labs have reported  8 finding asbestos fibers in talcum powder  9 products." And it references Blount, '91;  10 Paoletti, '84; Gordon, 2014; Longo, et al., 2017  11 and 2018; Blount deposition, 2018; Pier  12 deposition, 2018.  13 "These various studies that have  14 reported finding asbestos in historic talcum  15 powder samples have been challenged by other  16 reports that failed to find meaningful amounts of  17 asbestos in historic talcum powder samples." And  18 the two citations are CIR 2013 and Anderson 2017.  19 BY MS. BRANSCOME:  20 Q So what I'm trying to understand,  21 Dr. Siemiatycki, is what role this information  22 plays in your opinions, if any.  23 A Not much. You know, I would say that  24 the -- my opinions about the association are  25 driven by the strength and consistency of the</p>	<p style="text-align: right;">Page 104</p> <p>1 and answered.  2 THE WITNESS: You know, I would say the  3 sentences that I read summarize my opinion on that  4 question.  5 BY MS. BRANSCOME:  6 Q So in your opinion, is it -- is it a  7 question for debate in the scientific community at  8 the moment?  9 MS. PARFITT: Objection. Form.  10 Misstates his testimony.  11 THE WITNESS: It's not an area in which  12 I feel confident to pronounce that the issue has  13 been resolved or not.  14 MS. BRANSCOME: Is now a good time for a  15 break? I don't know how long --  16 MR. TISI: We've been going about an  17 hour and 25 minutes.  18 MS. PARFITT: We have lunch at 1:00, and  19 I don't think it's here.  20 (A discussion was held off the record.)  21 MS. BRANSCOME: We can go off the  22 record.  23 THE VIDEOGRAPHER: This ends disc number  24 in the deposition of Jack Siemiatycki. We're  25 going off the record at 12:42 p.m.</p>
<p style="text-align: right;">Page 103</p> <p>1 epidemiologic evidence. And this information  2 about asbestos contamination of talcum powder  3 products would be capable of moving the dial in  4 the direction of increasing my belief that there  5 is a causal assoc- -- a causal relationship, if it  6 is demonstrated that there were in fact asbestos  7 fibers contaminating.  8 So if it is shown that they are present,  9 that would increase my level of belief. If it is  10 not shown, if it is not demonstrated, it would not  11 detract from my finding based on the epidemiologic  12 evidence. It could move the dial in one  13 direction. It wouldn't move the dial in another,  14 because there -- there are different conceivable  15 ways that talcum powder products could increase  16 the risk of ovarian cancer. This is one. I'm not  17 capable of adjudicating whether this one is  18 correct or not.  19 Q So as you sit here today,  20 Dr. Siemiatycki, do you have an opinion to a  21 reasonable degree of scientific certainty that  22 there are in fact contaminants like asbestos or  23 heavy metals in Johnson &amp; Johnson's talcum powder  24 products?  25 MS. PARFITT: Objection. Form. Asked</p>	<p style="text-align: right;">Page 105</p> <p>1 (Lunch recess.)  2 THE VIDEOGRAPHER: This begins disc  3 number 3 in the deposition of Jack Siemiatycki.  4 We're going back on the record at 1:46 p.m.  5 BY MS. BRANSCOME:  6 Q Good afternoon, Dr. Siemiatycki.  7 Did you have a chance to look at the  8 various subjects we were going to return to after  9 the lunch break?  10 A I did.  11 Q Okay. So we'll take them one at a time.  12 A Yes, please.  13 Q Let's start first with, did you identify  14 the document that you had been provided by  15 plaintiffs' counsel that you said you took out all  16 but about 20 pages that you found relevant?  17 A Right. So I -- I think I mentioned the  18 IARC monographs as being two of them, and I think  19 the third one was the Reference Manual on  20 Scientific Evidence. There was a huge pack of  21 pages that were sent to me, and I took out most of  22 them, but I retained some that I thought were  23 relevant.  24 Q What portions of the Reference Manual on  25 Scientific Evidence did you retain?</p>

27 (Pages 102 to 105)

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<p style="text-align: right;">Page 106</p> <p>1 A I think it was the Epidemiology section 2 and maybe the Statistics section. 3 Q All right. During the break, you were 4 also going to check which of the epidemiological 5 studies that you included in your meta-analysis. 6 Did you or someone at your direction 7 independently calculate an odds ratio or relative 8 risk figure that was not published in the report 9 itself? 10 A Sorry, what? That was not published in 11 the original report. So I'm not sure. The answer 12 is in the time I had available, I couldn't really 13 identify anything like that, and I'm not sure if 14 that occurred at all, and it -- the impact of 15 that, if -- if it had occurred, would have been 16 negligible. 17 Q If -- 18 A It would have meant -- I'm sorry. It 19 would have meant that most likely I added -- I put 20 together a two-by-two table by aggregating across 21 two or three or four levels of exposure. If -- if 22 it had happened, I think that's what would have 23 happened. And the impact of that would be to 24 produce an odds ratio estimate that is not 25 adjusted for the covariates that they adjusted for</p>	<p style="text-align: right;">Page 108</p> <p>1 think what it is, we've got the signature page on 2 the one report, and then the one he has in his 3 binder appears to not have a signature page on it, 4 and the font seems to be -- when the signature 5 page was put in, the font was slightly larger, 6 which sort of throws off the page numbers. Same 7 report. 8 MS. BRANSCOME: So what I would -- 9 MS. PARFITT: Single -- 10 MS. BRANSCOME: -- request so that we 11 keep the record clean going forward and not every 12 question has to say page 108 in mine and page 107 13 in your copy is that we actually mark the version 14 of the report that has been produced to us as 15 Exhibit 11 -- well, let me just, Ms. Parfitt, 16 would you be comfortable marking his copy as 17 Exhibit 11 and switching them and putting the new 18 clean copy as Exhibit 10? I'm only thinking that 19 there are many prior questions -- 20 MS. PARFITT: Sure, I'm fine with that. 21 MS. BRANSCOME: -- that refer to his 22 report -- 23 MS. PARFITT: As long as his -- 24 MS. BRANSCOME: -- as Exhibit 10. 25 MS. PARFITT: Yeah, and just so the</p>
<p style="text-align: right;">Page 107</p> <p>1 in their analysis by the categories of dose or 2 whatever they adjusted for. 3 Q Is there any way by examining your 2018 4 report and the addendum that an outside reader 5 could determine which studies, if any, were 6 subject to this independent calculation? 7 A So the one thing I didn't check during 8 the break was whether there's a note in the 9 addendum, and it would take me a while, I'd have 10 to go through each study and see if there's any 11 notation in the margin that would indicate that 12 this was done. So I -- I -- I'm not sure of the 13 answer to your question. 14 Q If an adjustment like that or an 15 independent calculation had been done, would it be 16 your expectation that a notation would have been 17 made in the addendum? 18 A Yes. Yes. 19 Q All right. Did you look at anything 20 else over the lunch break? 21 A Well, we looked to see -- the page -- 22 pagination discrepancy between the different 23 versions, and I think Ms. Parfitt could fill you 24 in on -- or maybe she has. I don't know. 25 MS. PARFITT: No. No, I haven't. I</p>	<p style="text-align: right;">Page 109</p> <p>1 record is clear, and what appears to have happened 2 is there was a signature page that was put on the 3 report to represent the matter was filed in the 4 United States District Court, the District of New 5 Jersey, in light of the prior report that was in a 6 state court, and that has thrown off not only the 7 page numbers but I think even it might have been a 8 different font. 9 Sure, so we will put on -- 10 THE WITNESS: So do you want to modify 11 the -- this? 12 MS. PARFITT: Sure. I think what we're 13 going to do is the one that Dr. Siemiatycki has 14 brought will be now Exhibit 11, and the one that's 15 in -- on the thumb drive and -- 16 MS. BRANSCOME: It is tab 3 in the 17 binder in front of you will be the correct 18 Exhibit 10. 19 MS. PARFITT: And this will be 20 Exhibit 11. 21 MR. TISI: And Exhibit 11 will be his 22 copy, the one that he brought. 23 MS. PARFITT: And this will be 3 -- 3, 24 correct? 25 MS. BRANSCOME: 11 -- I mean 10. It's</p>



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<p style="text-align: right;">Page 110</p> <p>1 tab 3.</p> <p>2 MS. PARFITT: 11 -- 10. Tab 3, correct.</p> <p>3 (Exhibit No. 11 was marked for</p> <p>4 identification.)</p> <p>5 BY MS. BRANSCOME:</p> <p>6 Q So, Dr. Siemiatycki, can you confirm</p> <p>7 that Exhibit 10 is a complete copy of your report</p> <p>8 that was submitted in the MDL? It is a clean copy</p> <p>9 and does not contain any annotations.</p> <p>10 A Yes.</p> <p>11 Q Can you also confirm that what we have</p> <p>12 now marked as Exhibit 11 is the copy of your MDL</p> <p>13 report that you brought with you here today? It</p> <p>14 does contain handwritten annotations and the page</p> <p>15 numbers are just slightly misaligned.</p> <p>16 A Yes.</p> <p>17 Q Okay. So if you could, in Exhibit --</p> <p>18 oh, there was one other --</p> <p>19 A There was one other, and -- and there's</p> <p>20 another -- yet another one that I -- a correction</p> <p>21 to be made, a small one.</p> <p>22 So do you want to point out what that --</p> <p>23 Q Yes. So, Dr. Siemiatycki, do you have</p> <p>24 any corrections that you would like to make to</p> <p>25 your report at this time?</p>	<p style="text-align: right;">Page 112</p> <p>1 would like to make at this time?</p> <p>2 A Yes. I'd like to make one -- oh, yes.</p> <p>3 Well, page 72 in this version.</p> <p>4 MS. PARFITT: Just refer to the exhibit</p> <p>5 number, so 11.</p> <p>6 THE WITNESS: Exhibit 11, page 72,</p> <p>7 Table 2. Table 2 of the report.</p> <p>8 BY MS. BRANSCOME:</p> <p>9 Q What is the correction you would like to</p> <p>10 make?</p> <p>11 A The correction is -- there's a column</p> <p>12 called "Included in main meta-analysis," and I</p> <p>13 think in your copy, as in mine in this version,</p> <p>14 there are a bunch of question marks. In the</p> <p>15 original Word document that I submitted, these</p> <p>16 were not question marks. They were tick marks,</p> <p>17 checkmarks. And somehow in the translation of</p> <p>18 Word to PDF, this -- the tick mark -- the tick</p> <p>19 marks got changed to these funny little question</p> <p>20 marks. So they should all be tick marks.</p> <p>21 Q Are there any other corrections you</p> <p>22 would like to make to your report?</p> <p>23 A Not that I'm aware of at this time.</p> <p>24 Q Okay. So if you could turn to</p> <p>25 Exhibit 10 -- which is in front of you there -- if</p>
<p style="text-align: right;">Page 111</p> <p>1 A So the one outstanding one that we had</p> <p>2 highlighted -- or we've gone through the three of</p> <p>3 them.</p> <p>4 MS. PARFITT: 45.</p> <p>5 THE WITNESS: Have we --</p> <p>6 MS. PARFITT: No, 45. Page --</p> <p>7 MR. TISI: No, 47. 45.</p> <p>8 MS. PARFITT: Page 45. Excuse me, it's</p> <p>9 47.</p> <p>10 THE WITNESS: Oh, yes, that -- the</p> <p>11 question of whether that sentence should refer to</p> <p>12 Berge or Terry on that page. It's Berge 2018, not</p> <p>13 Terry. I was right the first time.</p> <p>14 MS. PARFITT: Oh, and it is page 45,</p> <p>15 just for the record. It is not 47. That was the</p> <p>16 first correction is on page 45.</p> <p>17 THE WITNESS: In this version.</p> <p>18 BY MS. BRANSCOME:</p> <p>19 Q So just to be clear, Dr. Siemiatycki, on</p> <p>20 the third line of page 45 of Exhibit 10, the</p> <p>21 reference to Terry 2013 in the sentence beginning</p> <p>22 with the word "while" should in fact be Berge</p> <p>23 2018?</p> <p>24 A Yes.</p> <p>25 Q Do you have any other corrections you</p>	<p style="text-align: right;">Page 113</p> <p>1 you could turn to your Conclusion section. It</p> <p>2 should be on page 69.</p> <p>3 A Yes.</p> <p>4 Q You state in the second paragraph below</p> <p>5 the Conclusion section that: "Based on the</p> <p>6 totality of the evidence, it is my opinion to a</p> <p>7 reasonable degree of scientific certainty that the</p> <p>8 perineal use of talcum powder products can cause</p> <p>9 ovarian cancer."</p> <p>10 First, did I read that correctly?</p> <p>11 A Yes, you did.</p> <p>12 Q Does that conclusion accurately</p> <p>13 summarize your opinion in this case as to whether</p> <p>14 or not perineal use of talcum powder can cause</p> <p>15 ovarian cancer?</p> <p>16 A Yes, it does.</p> <p>17 Q You state that your opinion is to a</p> <p>18 reasonable degree of scientific certainty,</p> <p>19 correct?</p> <p>20 A Correct.</p> <p>21 Q Is that a phrase that you have ever used</p> <p>22 in a scientific publication?</p> <p>23 A I don't think so.</p> <p>24 Q Why did you use it here?</p> <p>25 A I've seen this phrase used in all of the</p>

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<p style="text-align: right;">Page 114</p> <p>1 expert opinions in the legal cases that I've seen,  2 and I inferred that it's a -- a formula that is  3 de rigueur in legal communications for this sort  4 of thing.  5 Q When you say "to a reasonable degree of  6 scientific certainty," what do you mean by that  7 phrase?  8 A So my -- you know, I think somewhere  9 else in the document, I -- I phrase it in a way  10 that I'm comfortable with, which is a way that  11 also is sort of derivative from my understanding  12 of legal jargon and precedence. I think that it's  13 more likely than not that there is a causal  14 relationship.  15 Q You anticipated where I was going with  16 my question. Do those two sentences mean anything  17 different to you?  18 A No.  19 Q What is your understanding of "more  20 likely than not"?  21 A From a strictly mathematical point of  22 view, it implies that I feel that there's greater  23 than 50 percent probability that this thesis is  24 true. And I wouldn't put a more quantitative  25 meaning onto it.</p>	<p style="text-align: right;">Page 116</p> <p>1 that exists today enable a scientist to parse that  2 out?  3 MS. PARFITT: Objection. Form.  4 THE WITNESS: I'm not sure I understand  5 the premise of the question, the "if" part.  6 BY MS. BRANSCOME:  7 Q Okay. So if the biological mechanism by  8 which a talcum powder product can cause ovarian  9 cancer is because of a particular contaminant in  10 that talcum powder product, but that contaminant  11 does not exist in all talcum powder products,  12 would the epidemiological evidence that exists  13 today allow you to see that distinction?  14 MS. PARFITT: Objection. Form.  15 THE WITNESS: The epidemiologic evidence  16 as -- as it exists today would not allow one to  17 parse out anything about the particular  18 manufacturer, the particular product, if I  19 understand your question correctly.  20 BY MS. BRANSCOME:  21 Q And so therefore, the epidemiological  22 evidence as it exists today does not have a level  23 of detail by which someone reviewing that data  24 could determine if there were different  25 contaminants present in different talcum powder</p>
<p style="text-align: right;">Page 115</p> <p>1 Q Is your opinion that perineal use of  2 talcum powder products can cause ovarian cancer,  3 is it specific to a single brand or manufacturer  4 of talcum powder?  5 A No, it isn't.  6 Q Why not?  7 A Because as I understand it, the  8 epidemiologic evidence that supports the thesis of  9 a causal relationship is derived from evidence  10 among women who used all types of talcum powder  11 products that were available in their consumer  12 area of purchase of these products. And whatever  13 was the frequency distribution of different  14 manufacturers and types of powdering that were  15 available in the consumer -- various consumer  16 markets were the types that lead to the overall  17 inference about causality, and there's no way for  18 me to parse out which particular manufacturer  19 would have been more or less responsible for any  20 of this.  21 Q If in fact, and we're just talking  22 hypothetically, the biological mechanism by which  23 some talcum powder products can cause ovarian  24 cancer is related to a contaminant in that talcum  25 powder product, does the epidemiological evidence</p>	<p style="text-align: right;">Page 117</p> <p>1 products that were used by individuals who  2 developed ovarian cancer --  3 MS. PARFITT: Objection. Form.  4 BY MS. BRANSCOME:  5 Q -- correct?  6 MS. PARFITT: Objection. Form.  7 THE WITNESS: May I read the --  8 MS. PARFITT: Yes, you can.  9 BY MS. BRANSCOME:  10 Q Of course.  11 A Just to make sure I understand.  12 (Peruses document.)  13 So I -- I don't think that the  14 epidemiological evidence would allow you to  15 attribute causality to a specific type or -- or  16 not. If one knew -- if part of your hypothetical  17 is the knowledge of what the constituents were of  18 different products used in different markets, and  19 the biological mechanism has been established to a  20 high degree of certainty, there might be some room  21 for making inferences about this. But that seems  22 like a tenuous possibility.  23 Q But you agree that the current  24 epidemiological evidence as it exists does not  25 enable someone to distinguish between brands of</p>

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<p style="text-align: right;">Page 118</p> <p>1 cosmetic talc products, for example?</p> <p>2 MS. PARFITT: Objection. Form.</p> <p>3 THE WITNESS: I don't think it does.</p> <p>4 BY MS. BRANSCOME:</p> <p>5 Q Does -- is your opinion that perineal</p> <p>6 use of talcum powder products can cause ovarian</p> <p>7 cancer, is that limited to talcum powder products</p> <p>8 manufactured during a certain time period?</p> <p>9 A The evidence as it exists today pertains</p> <p>10 to products manufactured over half a century,</p> <p>11 roughly speaking, so I don't think that there's</p> <p>12 any way to link it to products manufactured in a</p> <p>13 particular time period.</p> <p>14 In -- in answer to that question,</p> <p>15 actually, and to the previous one, hypothetically,</p> <p>16 one might imagine looking at the different</p> <p>17 study -- the 30-odd studies that have been carried</p> <p>18 out in different communities and different cities</p> <p>19 and different countries, and if one could obtain</p> <p>20 reliable, reasonably precise and time relevant</p> <p>21 information on market shares of products in</p> <p>22 different markets at different times, that could</p> <p>23 give a first approximation of whether certain</p> <p>24 company products are more closely linked to the</p> <p>25 excesses that are seen in the epidemiological</p>	<p style="text-align: right;">Page 120</p> <p>1 ovarian cancer in that area, it would be</p> <p>2 improbable that the product of that company were</p> <p>3 not part of the responsibility, but one of the</p> <p>4 companies that produced 5 or 10 percent of the</p> <p>5 market share.</p> <p>6 BY MS. BRANSCOME:</p> <p>7 Q Okay. But as you sit here today, based</p> <p>8 on the analysis that you have done, you are not</p> <p>9 able to draw an opinion specifically about an</p> <p>10 increased risk of ovarian cancer that is tied to a</p> <p>11 particular brand or a particular time period,</p> <p>12 correct?</p> <p>13 MS. PARFITT: Objection. Form.</p> <p>14 THE WITNESS: That's correct, in part</p> <p>15 because I don't have data on market share at</p> <p>16 different times and in different places.</p> <p>17 BY MS. BRANSCOME:</p> <p>18 Q Okay. In forming your opinion that</p> <p>19 perineal talc use can cause ovarian cancer, did</p> <p>20 you reach an opinion about how much talcum powder</p> <p>21 is needed to cause ovarian cancer?</p> <p>22 A No.</p> <p>23 Q Is there an amount of talcum powder that</p> <p>24 can be used perineally without increasing a risk</p> <p>25 for ovarian cancer?</p>
<p style="text-align: right;">Page 119</p> <p>1 studies.</p> <p>2 Q The application, though, of a market</p> <p>3 share analysis to the users of talcum powder</p> <p>4 products, if you're looking at causality, would</p> <p>5 require that the individuals who developed ovarian</p> <p>6 cancer had purchased their talcum powder according</p> <p>7 to the market share, correct?</p> <p>8 MS. PARFITT: Objection. Form.</p> <p>9 THE WITNESS: Approximately, yes.</p> <p>10 BY MS. BRANSCOME:</p> <p>11 Q So, for example, if one type of talcum</p> <p>12 powder product or one time period of talcum powder</p> <p>13 product is the only type that actually causes</p> <p>14 ovarian cancer, so all of the positives were</p> <p>15 derived from those users, you -- you could not</p> <p>16 determine that simply by applying market share,</p> <p>17 for example?</p> <p>18 MS. PARFITT: Objection. Form.</p> <p>19 THE WITNESS: That -- that's true,</p> <p>20 except in the circumstance that market share were</p> <p>21 very, very high in most of the communities that</p> <p>22 have been investigated. So if one company</p> <p>23 produced 90 percent or 85 percent or something of</p> <p>24 the product in a certain area -- that was consumed</p> <p>25 in a certain area, and there's an excess risk of</p>	<p style="text-align: right;">Page 121</p> <p>1 A So let me go back to the previous</p> <p>2 question, and clarify what do you mean by amount?</p> <p>3 Do you mean like the amount in grams? The amount</p> <p>4 in number of applications? The amount in number</p> <p>5 of day -- days on which the powder is applied?</p> <p>6 These are all different metrics of exposure, and</p> <p>7 the answer might depend on what kind of -- you</p> <p>8 know, we're starting with these studies. There</p> <p>9 are now some hints about the dose-response</p> <p>10 relationship and what kind of levels of exposure</p> <p>11 in terms of number of applications in use,</p> <p>12 observable excess risks.</p> <p>13 Q So let me ask it this way: Did you</p> <p>14 calculate how much talcum powder is needed to</p> <p>15 cause ovarian cancer in any of the forms, be it</p> <p>16 frequency of application, the amount in grams that</p> <p>17 was used?</p> <p>18 A I --</p> <p>19 MS. PARFITT: Objection. Form.</p> <p>20 THE WITNESS: I did not carry out such a</p> <p>21 calculation. I'm -- my emphasis was on</p> <p>22 determining whether there's a dose-response</p> <p>23 relationship. Going beyond that might involve</p> <p>24 trying to quantify the dose-response relationship</p> <p>25 to the extent of determining what the shape of</p>

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<p style="text-align: right;">Page 122</p> <p>1 such a relationship is and how the curve looks,  2 whether there's a threshold effect, and so on.  3 But I don't think there's enough data now to be  4 able to make such estimates.  5 BY MS. BRANSCOME:  6 Q Can you rule out the possibility that  7 there is a threshold below which perineal use of  8 talc presents no risk of ovary -- of ovarian  9 cancer?  10 MS. PARFITT: Objection. Form.  11 THE WITNESS: No, I -- I don't think --  12 I can't, and I don't think it's possible to do  13 that with most carcinogens. It's -- it's an  14 extremely difficult and controversial issue of how  15 to detect sort of a minimum level of exposure  16 produces a carcinogenic effect.  17 BY MS. BRANSCOME:  18 Q In your view, has a dose-response  19 relationship for the perineal application of talc  20 and the development of ovarian cancer been  21 established in the scientific literature?  22 A My view is that the data are certainly  23 compatible with the notion of a dose-response  24 relationship. It -- it trends in that direction  25 of that conclusion. It's not definitive yet.</p>	<p style="text-align: right;">Page 124</p> <p>1 ovarian cancer, is that the question? Almost.  2 But the one qualification I would make in  3 answering that question is that I have a colleague  4 who started working with -- in my academic  5 department about 12 years ago, and she was  6 interested in ovarian cancer as a topic of  7 research, and she wanted to organize a case-  8 control study of ovarian cancer in relation to  9 various factors, and she asked me to kind of  10 mentor her -- she was just starting out -- mentor  11 her in getting grants, in setting up the study,  12 and this sort of thing, and this is what I did  13 with her.  14 So I worked on grant applications with  15 her on some aspects of setting up her study, and  16 that has been going on now for -- I don't know --  17 I think since 2010 maybe that she started. So --  18 but that has not -- I've been what we call a  19 coinvestigator on that project, not a principal  20 investigator.  21 But apart from that, the next stage in  22 my involvement with talc and ovarian cancer was in  23 the litigation.  24 Q What is your colleague's name?  25 A Anita Koushik.</p>
<p style="text-align: right;">Page 123</p> <p>1 It's not definitive. But I believe the bulk of  2 the evidence, especially from the Terry study and  3 partly from, I think it's the, Schildkraut study,  4 which are the most powerful ones for that  5 question, but certainly the Terry study is by far  6 the most important one, does tend to indicate  7 dose-response relationship.  8 Q Is the data that exists today also  9 compatible with no dose-response relationship?  10 MS. PARFITT: Objection. Form.  11 THE WITNESS: Yes. It could be -- in  12 other words, it could be a chance finding. Is --  13 that's what you're saying. I think it's unlikely,  14 but it's -- it can't be ruled out.  15 BY MS. BRANSCOME:  16 Q Are you offering an expert opinion that  17 the inhalation of talc increases or presents any  18 risk of ovarian cancer?  19 A I -- I don't have an opinion on -- on  20 that. No.  21 Q Aside from your participation in the  22 IARC panel in 2006 and the Langseth article on  23 2008, has all of your work on talc and ovarian  24 cancer been in connection with litigation?  25 A On talc and -- sorry, work on talc and</p>	<p style="text-align: right;">Page 125</p> <p>1 Q If you had to give me your best  2 estimate, how many hours total have you spent  3 assisting her with the case-control study?  4 MS. PARFITT: Objection. Form,  5 misstates his testimony.  6 THE WITNESS: It's very hard to answer  7 that. I mean, ten years ago discussions over  8 coffee about studies and how to write grant  9 applications and reviewing and revising and so on.  10 I -- I don't -- not a trivial amount and not an  11 overwhelming amount.  12 BY MS. BRANSCOME:  13 Q When was the last time that you spent  14 hours in connection with that case-control study?  15 MS. PARFITT: Objection. Form.  16 THE WITNESS: There was a manuscript  17 that came -- a publication that came from that  18 study. It was -- the study was only completed in  19 the field, the data collection, around two years  20 ago, and spending a year cleaning data and so on,  21 and then starting to analyze it.  22 And there was an analysis of  23 reproductive and hormonal factors in relation to  24 ovarian cancer, and I helped her review and revise  25 that manuscript. That would have been a year and</p>

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<p style="text-align: right;">Page 126</p> <p>1 a half ago or so, and I don't know, maybe I spent 2 three or four days on it at the time. 3 BY MS. BRANSCOME: 4 Q Did that study reach any conclusions 5 with respect to a potential link between perineal 6 use of talc and ovarian cancer? 7 A The talc information was collected in 8 the questionnaire and has not yet been analyzed. 9 Q Other than what we just discussed with 10 respect to the case-control study and then your 11 work in connection with the IARC panel and the 12 Langseth paper, have you ever done any original 13 research on the association between perineal 14 talcum powder use and ovarian cancer? 15 A No. No, I haven't. 16 It's common -- it's common for me to be 17 asked to review information on which I have not 18 directly worked. You know, topics. You know, I 19 recently was asked by the government of France to 20 evaluate a problem of possible cancer risks 21 related to a pesticide that's used in the banana 22 industry in Guadeloupe and Martinique. I've never 23 studied that pesticide and I've never been to 24 Martinique. But the kind of expertise that I have 25 can be applied to studying different sorts of</p>	<p style="text-align: right;">Page 128</p> <p>1 A That's correct. 2 Q Have you done anything since 2016 to 3 publicly announce your view that the perineal use 4 of talc can cause ovarian cancer? 5 A No, I've not had really an opportunity. 6 And in a way the -- the publication by Berge, 7 which appeared as a -- after I completed my 8 meta-analyses, and they -- they kind of beat me to 9 the punch with one type of publication output that 10 I might have produced. So I'm thinking about 11 different ways of communicating my results and my 12 opinions, but mainly my results. 13 I mean, the other part of the answer 14 to -- another part of the answer to your question 15 is that I'm not particularly a fan of individual 16 scientists going into press with opinions before 17 some sort of consensus starts to appear. I mean, 18 you can -- you can publish hypotheses and ideas, 19 but proclaiming conclusions is something that 20 should come later in the scientific process. I 21 mean, I -- I think it's best if IARC or an agency 22 like IARC would take on that role, and that would 23 be my hope actually. 24 Q In your opinion, has consensus formed 25 that peri- -- perineal use of talc can cause</p>
<p style="text-align: right;">Page 127</p> <p>1 problems. 2 Q You have not published the meta-analyses 3 that you -- meta-analysis you performed in 4 connection with the MDL, have you? 5 A No, I haven't. 6 Q Have you ever published in any peer- 7 reviewed article the opinion that the perineal use 8 of talcum powder can cause ovarian cancer? 9 A I -- I've never had occasion to opine 10 about this in any publication, and one doesn't 11 just announce to the New England Journal of 12 Medicine that you want to, you know, write an 13 article about opining about something like this. 14 There has to be some sort of platform basis of 15 research evaluation and so on. 16 And my involvement in this case might 17 lead to such a publication, but in the past I 18 would have not -- I had no reason to publish or to 19 try to publish such an opinion. 20 Q But you had formed an opinion with 21 respect to the perineal use of talcum powder and 22 an increased risk of ovarian cancer at the time 23 that you published your report in October of 2016. 24 And by "published," I mean within the 25 litigation context, correct?</p>	<p style="text-align: right;">Page 129</p> <p>1 ovarian cancer? 2 A I think among people who have reviewed 3 the evidence who -- sort of competent scientists 4 who have reviewed the evidence, I think there's 5 starting to be a ground swell of consensus about 6 it. You know, I've never done a survey, so I 7 can't say if it's majority or minority. 8 If your denominator is all medical 9 researchers, then the answer is, well, most of 10 them have never heard of this issue, so it's 11 not -- they wouldn't be susceptible to holding 12 such an opinion. But among the people who have 13 reviewed, are familiar with the issues, I think 14 there's certainly a much higher level of 15 receptivity to this thesis than there was ten 16 years ago. 17 Q Has a consensus been reached that 18 perineal use of talc probably causes ovarian 19 cancer? 20 MS. PARFITT: Objection. Asked and 21 answered. Form. 22 THE WITNESS: I can't answer that 23 question. I -- it's too -- are you trying to make 24 the distinction between probably and -- I -- so -- 25 BY MS. BRANSCOME:</p>



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<p style="text-align: right;">Page 130</p> <p>1 Q Well, what do you understand the phrase</p> <p>2 "can cause ovarian cancer" to mean?</p> <p>3 A Well, it's a synonym with "is a risk</p> <p>4 factor for" or -- that's how I understand it.</p> <p>5 Q All right. And is that in your mind the</p> <p>6 same as "it probably causes cancer"?</p> <p>7 MS. PARFITT: Objection. Form.</p> <p>8 THE WITNESS: "It probably can cause,"</p> <p>9 is that what you said, or "probably does cause"?</p> <p>10 BY MS. BRANSCOME:</p> <p>11 Q Probably does cause.</p> <p>12 A So I don't think any risk factor can be</p> <p>13 described as -- in a way with the wording "does</p> <p>14 cause." You know, smoking does not cause lung</p> <p>15 cancer. It can cause lung cancer when there's a</p> <p>16 constellation of other favorable circumstances.</p> <p>17 You know, this is part of multifactorial causation</p> <p>18 of disease. So, you know, each factor in itself</p> <p>19 is not the cause, but it's part of a constellation</p> <p>20 of factors that together can cause the disease.</p> <p>21 So each of them can cause the disease.</p> <p>22 Q So -- you -- you state in your report</p> <p>23 that -- let me see if I can get the exact</p> <p>24 language.</p> <p>25 And perhaps you can get me there more</p>	<p style="text-align: right;">Page 132</p> <p>1 THE WITNESS: I don't know -- I haven't</p> <p>2 carried out a survey among people. I don't know</p> <p>3 whether a consensus has been reached. I don't</p> <p>4 know what proportion of that community would</p> <p>5 subscribe to this point of view or not.</p> <p>6 BY MS. BRANSCOME:</p> <p>7 Q Okay. Setting aside conducting a survey</p> <p>8 of individuals in the scientific community, would</p> <p>9 you say that the scientific literature reflects a</p> <p>10 consensus that the causal relationship between</p> <p>11 perineal talc powder exposure and ovarian cancer</p> <p>12 is probable?</p> <p>13 MS. PARFITT: Objection. Form.</p> <p>14 THE WITNESS: I think the scientific</p> <p>15 literature supports that conclusion. I'm not sure</p> <p>16 that it reflects it.</p> <p>17 So there's kind of a lag period between</p> <p>18 the production of research findings and the</p> <p>19 consensus -- a consensus building around it and</p> <p>20 being expressed in print. You know, if we take</p> <p>21 sort of the classic smoking and lung cancer</p> <p>22 historical example, evidence was accumulating</p> <p>23 rapidly in the 1950s. There were several studies</p> <p>24 through the 1950s and early 1960s, and it was only</p> <p>25 in 1964, so many years after some of this evidence</p>
<p style="text-align: right;">Page 131</p> <p>1 quickly. You talk about that now you would give a</p> <p>2 different rating under the IARC standard.</p> <p>3 Ah, here we go. Page 67 in your 2018</p> <p>4 report. You state: "It is now my professional</p> <p>5 opinion based on the totality of the evidence,</p> <p>6 that to a reasonable degree of scientific</p> <p>7 certainty, the causal relationship between</p> <p>8 perineal talc powder exposure and ovarian cancer</p> <p>9 is," quote, "probable."</p> <p>10 Did I read that correctly?</p> <p>11 A You did.</p> <p>12 Q Do you hold that opinion?</p> <p>13 A Yes, I do.</p> <p>14 Q What do you mean when you say a "causal</p> <p>15 relationship between perineal talc powder exposure</p> <p>16 and ovarian cancer is," quote, "probable"?</p> <p>17 A I mean it's more likely than not.</p> <p>18 Q Okay. Has a consensus been reached in</p> <p>19 the scientific community, understanding we're</p> <p>20 looking at those who have an interest in this</p> <p>21 issue, been reached that the causal relationship</p> <p>22 between perineal talc powder and ovarian cancer is</p> <p>23 probable?</p> <p>24 MS. PARFITT: Objection. Form, asked</p> <p>25 and answered.</p>	<p style="text-align: right;">Page 133</p> <p>1 had been published and been accepted by many</p> <p>2 scientists, but rejected by others -- there was</p> <p>3 still controversy around it -- that the Surgeon</p> <p>4 General's report reflected and created a</p> <p>5 consensus.</p> <p>6 BY MS. BRANSCOME:</p> <p>7 Q So in early 2019, are we still in the</p> <p>8 lag period or the period in which the production</p> <p>9 of research findings is still behind consensus</p> <p>10 building in the literature?</p> <p>11 MS. PARFITT: Objection. Form,</p> <p>12 misstates his testimony.</p> <p>13 THE WITNESS: Does that mean I should</p> <p>14 answer or --</p> <p>15 MS. PARFITT: I'm objecting. I said it</p> <p>16 misstates your prior testimony.</p> <p>17 THE WITNESS: Okay. Sorry. Let me read</p> <p>18 the question again. (Peruses monitor.)</p> <p>19 So I can't point to hallmark</p> <p>20 publications analogous to the Surgeon General's</p> <p>21 report for smoking and lung cancer that would</p> <p>22 reflect such a bend in the road kind of general</p> <p>23 perception of the talc ovarian cancer issue. It</p> <p>24 doesn't mean that the evidence isn't there, but</p> <p>25 the process of recognizing and generalizing and so</p>

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<p style="text-align: right;">Page 134</p> <p>1 on is not -- has not been achieved yet.  2 BY MS. BRANSCOME:  3 Q Okay. Have you ever given a lecture,  4 either to students or to other scientists, in  5 which you have presented your view that the  6 perineal use of talcum powder can cause ovarian  7 cancer?  8 A I have to my students -- I mean to the  9 students in my department. I teach epidemiologic  10 methods. I don't teach about ovarian cancer. I  11 don't teach about talc. That's not what I'm paid  12 to do. I'm paid to teach about the methodology  13 and the conduct of -- and the interpretation of  14 epidemiologic -- and I've used the talc/ovarian  15 cancer as an example and walked my students  16 through the evidence. So, yes, I have.  17 Q When did you start teaching that as part  18 of your epidemiological methods course?  19 A Probably two years ago. As soon as I  20 started gathering the information and synthesizing  21 it, so two -- two or three years ago.  22 Q Other than presenting to your students  23 your analysis of talc and ovarian cancer as an  24 illustration of an epidemiological method, have  25 you presented your opinion that perineal use of</p>	<p style="text-align: right;">Page 136</p> <p>1 think. (Peruses document.)  2 Q Okay.  3 A No, I've never spoken to any of them  4 about -- I -- I crossed paths with Dr. Cramer in  5 Los Angeles for a -- you know, we were in the same  6 hotel. He was leaving, I was coming, that sort of  7 thing, but I don't think we had any substantive  8 discussion, and I can't -- I know some of the  9 others, but I've never spoken to them about this  10 issue.  11 Q Do you know personally or professionally  12 any of the other plaintiffs' experts in the MDL?  13 A No, I don't.  14 Q You were chair of the working group --  15 the IARC Working Group that published the  16 monograph on talc in 2006 -- or, well, that met in  17 2006, and then was subsequently published in 2010,  18 correct?  19 A That's correct.  20 Q And there were roughly 20 members of  21 that working group?  22 A I think so.  23 Q In 2006, you agreed with the IARC  24 classification of, quote, "possible" describing  25 the relationship between perineal talc use and</p>
<p style="text-align: right;">Page 135</p> <p>1 talcum powder can cause ovarian cancer in any  2 other context outside of litigation?  3 A No, I haven't.  4 Q Have you spoken with other scientists  5 about the issue of whether perineal use of talcum  6 powder can cause ovarian cancer? Setting aside  7 your students.  8 A Yeah. Yes, I've spoken to -- to  9 colleagues, friends over -- over coffee, over  10 drinks at conferences, you know, what are you up  11 to, what are you doing, and then describe my  12 involvement in this case. And then we dig a  13 little further into, Well, what -- what do you  14 think, and so on. So I -- I have discussed it in  15 that kind of format.  16 Q Have you ever spoken with any of the  17 authors on any of the papers that you cite in your  18 report about the potential link between perineal  19 use of talc and ovarian cancer?  20 A I don't think so. I can quickly scroll  21 through the list to see if anything jogs my --  22 yeah -- no, let me --  23 Q If you can do that quickly, we could do  24 it now, or we can save that for the next break.  25 A It will take just three minutes, I</p>	<p style="text-align: right;">Page 137</p> <p>1 ovarian cancer, correct?  2 MS. PARFITT: Objection. Form.  3 THE WITNESS: That's correct. I could  4 read the exact wording of what "to be" means, but  5 that's the gist of it.  6 BY MS. BRANSCOME:  7 Q Okay. IARC has not changed its  8 clarification of talc, and specifically with  9 respect to the peri- -- perineal use of talc since  10 it published the 2010 monograph, correct?  11 A Technically correct, but actually,  12 what -- the correct statement is IARC has not  13 evaluated talc since 2006 -- has not reevaluated.  14 So there are no changes made to IARC evaluations  15 except through a formal complete reevaluation, and  16 there has not been a formal complete reevaluation  17 of talc since the 2006 meeting. So there's no  18 opportunity for IARC to change anything in one  19 direction or another failing another complete  20 evaluation.  21 Q What, if you know, can initiate a formal  22 complete evaluation of a constituent like talc?  23 A Well, it comes I think from different  24 sources. I'm not entirely certain. I know that  25 there is now a public process whereby public</p>

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<p style="text-align: right;">Page 138</p> <p>1 parties can write to the monograph program and  2 make suggestions for chemicals to be evaluated.  3 There are -- they get requests from governments.  4 They get requests from groups of scientists. They  5 have their own internal scientific staff that has  6 its antenna out for different problems that arise,  7 and they generally have sort of a five-year  8 program of agents that they are going to evaluate  9 in every -- in the next five-year period.  10 These things are not quick and easy to  11 organize, and so there's a lot of lead time.  12 There's a lot of, in a way, competition for agents  13 to get onto the list to be evaluated. There are a  14 lot of interested parties that would like the  15 agent that they are exposed to or the "et cetera"  16 to be evaluated. So the exact mechanics of how  17 they make decisions, I haven't been involved in  18 that process, but that's, roughly speaking, how  19 it's done.  20 Q Have you ever submitted a request to  21 IARC for them to conduct a complete evaluation of  22 talc?  23 A Have I ever?  24 Q Have you since the publication of the  25 monograph in 2010 submitted a request to IARC for</p>	<p style="text-align: right;">Page 140</p> <p>1 sentence -- you know, in the context of a  2 conversation about many things, as we do when we  3 catch up when we meet. What -- you know, what's  4 on the agenda for the monograph program? By the  5 way, I think talc might be an interesting thing to  6 put on a list for you to consider. And probably  7 the conversation ended -- that part of the  8 conversation ended and moved on to other things.  9 But...  10 MR. KLATT: Should we take a break?  11 MS. BRANSCOME: I understand the noise,  12 but I -- I don't know that Dr. Siemiatycki was  13 finished with his answer.  14 MS. PARFITT: We'll keep going. I  15 didn't -- I was trying to keep a clean record for  16 you. That's fine. Keep going.  17 MS. BRANSCOME: Well, we -- we can  18 pause. I just was trying to let him finish his  19 answer.  20 MS. PARFITT: We'll keep it paused here  21 on the screen. Just a little bit more activity.  22 THE VIDEOGRAPHER: We will pause for a  23 second. We're going off the record, 2:41 a.m. --  24 p.m.  25 (Pause.)</p>
<p style="text-align: right;">Page 139</p> <p>1 them to conduct another complete evaluation of  2 talc?  3 A I had a quick word with the director of  4 the monograph program a few months ago, and I  5 suggested it might be time for that. But I'm  6 intending to submit a more formal request along  7 those lines. So...  8 Q Okay. Who -- who specifically did you  9 speak with a few months ago?  10 A The director of the monograph program is  11 Kurt Straif, S-T-R-A-I-F.  12 Q And how did you have occasion to be  13 speaking with the director?  14 A We're acquaintances, and I met him at a  15 conference in August, I saw him when I was in Lyon  16 in November at a meeting that he organized. So  17 I've seen him a few times in the last six months.  18 Q When did you have this conversation with  19 the director?  20 A I think it was in the summer.  21 Q So the summer of 2018?  22 A Yeah.  23 Q And what specifically did you discuss  24 with him?  25 A I -- I think it might have been a one</p>	<p style="text-align: right;">Page 141</p> <p>1 THE VIDEOGRAPHER: We're going back on  2 the record at 2:43 p.m.  3 BY MS. BRANSCOME:  4 Q When you spoke with the director of the  5 monograph program for IARC last summer, did you  6 inform him that you have been serving as an expert  7 witness on behalf of plaintiffs in litigation  8 involving talcum powder products and the claim  9 that they cause ovarian cancer?  10 A I'm not sure if I told him at that time,  11 but I certainly have told him since then.  12 Q When you were talking to him about the  13 possibility of including talc in a formal,  14 complete evaluation subsequent to the one that was  15 done in 2006 and published in 2010, did you tell  16 him anything about your opinions with respect to  17 the likelihood that perineal use of talc can cause  18 ovarian cancer?  19 A I don't think I did.  20 Q What did he say about -- if anything,  21 about conducting a formal evaluation of talc?  22 A I -- I can't remember if he said  23 anything about it.  24 Q Have you had any conversations with him  25 other than the conversation you had last summer</p>

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<p style="text-align: right;">Page 142</p> <p>1 about IARC conducting another examination of talc 2 and its potential carcino- -- carcinogenicity -- 3 whoops, butchered that one -- about it's ability 4 to cause cancer? 5 A No. I don't think I did. 6 Q Now, you said you have an -- you have 7 the intention to submit something formal to IARC; 8 is that correct? 9 A Yes. I've been thinking about it, and 10 I -- when I have time, I'll look into the process. 11 Q What specifically would you request that 12 IARC do at this time with respect to talc? 13 A Carry out an evaluation like they did in 14 2006 but with up-to-date data. 15 Q What data specifically do you think an 16 IARC Working Group would need to consider that was 17 not available in 2006? What are the key pieces of 18 data that you think should be considered by a 19 working group? 20 A So from an epidemiological database 21 point of view, there have been a number of 22 publications, as you know, since 2006, including 23 some cohort studies, various case-control studies, 24 various meta-analyses, a pooled analysis from the 25 Terry group. All of that information bears on the</p>	<p style="text-align: right;">Page 144</p> <p>1 sufficient growth in the information base that 2 would justify it. And the question is whether 3 there are other priorities -- that they have 4 things with even higher priorities for them to 5 look at. 6 Q We agree the perineal use of talc 7 currently is classified by IARC as a Group 2B 8 chemical, correct? 9 A Correct. 10 Q So the classification or the definition 11 of a Group 2A chemical still applies when there is 12 limited evidence of carcinogenicity in humans and 13 then sufficient evidence of carcinogenicity in 14 experimental animals, correct? 15 A Yes. 16 Q Has there been developments in the 17 experimental animal data since the IARC Working 18 Group evaluated the risks associated with the 19 perineal use of talc in 2006? 20 A I'm not aware whether there has been. 21 I -- it does not spring to mind. I can't think of 22 any examples. 23 Q Now, I noticed in your report you have a 24 description, it's on page 24, of the different 25 categories that IARC might rate a chemical.</p>
<p style="text-align: right;">Page 143</p> <p>1 evaluation of cancer risk. It -- it may or may 2 not change the view of a working group vis-à-vis 3 the view held by the 2006 working group, but 4 there's enough new information there that it could 5 potentially change points of view. 6 And in the mechanism area, I understand 7 that there has been additional work on various 8 possible areas of -- concerning the migration of 9 particles around the body and how this might 10 influence the -- the biological plausibility of 11 such a -- a process. The possible role, roles of 12 inflammation or oxidative stress. There have been 13 developments -- there are new publications in 14 those areas that might influence a new working 15 group or a working group looking at it with new 16 eyes. 17 For all of those reasons, I think it 18 would be timely, and in any case, if a decision 19 were made today to do this, such a meeting would 20 probably not be held before 2022 or 2023 at the 21 earliest. They have a horizon of priorities that 22 they're working on. So -- and by then, there 23 would likely be additional work that would be 24 available. 25 So it's an area where I think there is</p>	<p style="text-align: right;">Page 145</p> <p>1 Do you see where I am? 2 A Yes, I see where you are. 3 Q Okay. And there's a rating system that 4 IARC uses that ranges from 1 to 4, correct? 5 A Yes. 6 Q That -- you have indicated here on 7 page 24 on your report that number 4 is not a 8 carcinogen. Is that accurate? Is that an 9 accurate description of category 4? 10 A The wording is longer than that, but 11 this is my potted version of what that longer 12 version means. 13 Q The actual definition is that it is 14 probably not carcinogenic, correct? 15 A Correct. 16 MS. BRANSCOME: Would now be a good time 17 for a break? 18 MS. PARFITT: I think so. We can take a 19 break. Thank you. 20 THE VIDEOGRAPHER: We are going off the 21 record at 2:51 p.m. 22 (Recess.) 23 THE VIDEOGRAPHER: This is the beginning 24 disc number 4 in the deposition of Jack 25 Siemiatycki. We're going back on the record at</p>

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<p style="text-align: right;">Page 146</p> <p>1 3:27 p.m.  2 BY MS. BRANSCOME:  3 Q Good afternoon, again, Dr. Siemiatycki.  4 A Hi.  5 Q Do you still agree with the IARC  6 characterization that the case-control studies  7 evaluating a potential connection between perineal  8 talc powder exposure and ovarian cancer are  9 unusually consistent?  10 A Unusually -- they're very consistent.  11 I'm not sure I would choose the word "unusually."  12 Sometimes when 20 people write a document,  13 everyone doesn't agree with every word, but they  14 are very consistent.  15 Q Do you agree with the IARC determination  16 that the excess in risk in those case-control  17 studies is, quote, modest?  18 A That the what, the increase in risk?  19 Q Or the excess of risk.  20 A Yeah, the -- I mean, the terminology  21 around strength of association -- weak, modest,  22 strong, very strong, medium, et cetera -- it  23 doesn't have -- there are no regulations. There's  24 no epidemiologic handbook that says if a relative  25 risk is in this range, you call it weak or</p>	<p style="text-align: right;">Page 148</p> <p>1 this -- there are not many that have such high  2 relative risks.  3 I'm just giving you a bit of background  4 because the terminology is controversial, and I  5 know it plays into the case of how we -- how we  6 characterize the associations around talc and  7 ovarian cancer.  8 There are a lot of associations that are  9 much less than -- with relative risks much lower  10 than ten that are very well accepted as being  11 causal associations. And so the idea that  12 associations have to be, quote/un- -- quote,  13 strong in the sense that the smoking-lung cancer  14 association was strong is not really tenable any  15 more. There are so many -- most known carcinogens  16 don't have such strong -- don't have such high  17 relative risks. So where you draw the line  18 between strong, moderate, weak, and so on, is a  19 kind of -- is a vague notion.  20 If you're asking me how I would  21 characterize it or how it's characterized -- I'm  22 not sure whether you want to go -- to ask how I  23 would characterize it or how it's characterized by  24 other people or --  25 Q So, respectfully, Dr. Siemiatycki, my</p>
<p style="text-align: right;">Page 147</p> <p>1 moderate and so on and so forth.  2 So the term "moderate" -- actually, the  3 terminology around strength of associations was  4 probably most influenced by the smoking and lung  5 cancer situation in the '50s and '60s where there  6 were relative risks of ten approximately, ten  7 times as high of risk for smokers as for  8 nonsmokers of getting lung cancer, and that was  9 considered a benchmark for strong associations.  10 And it was not known then whether most carcinogens  11 would fall -- most carcinogens that would be  12 discovered later than that era would fall into the  13 category, you know, of relative risks, around ten  14 or around five or around two or whatever.  15 So the -- the use of the terms "strong,"  16 "medium," "weak" has kind of been -- what's the  17 word? -- benchmarked, I guess, by the smoking-lung  18 cancer association. And things that --  19 subsequently relative risks that were less than in  20 that order of magnitude of ten or so where people  21 didn't refer to them as strong because they were  22 not as strong as smoking and lung cancer.  23 It has subsequently turned out that the  24 level of relative risk for smoking and lung cancer  25 is exceptional among known carcinogens, and that</p>	<p style="text-align: right;">Page 149</p> <p>1 question was, do you agree with the IARC  2 classification of the increase in risk as, quote,  3 modest?  4 A So there was no such classification. It  5 was a word used in a sentence, I guess. There  6 is -- they never classified the association as  7 being strong, weak, moderate or whatever. It was  8 part of a narrative about the -- the body of  9 evidence.  10 Do I agree that -- yeah, I would use  11 that term today.  12 I'm sorry if I digressed from your  13 question.  14 Q You would agree that the point estimate  15 of the meta-analysis that you conducted in 2018  16 that's contained in your report marked Exhibit 10  17 is actually lower than the point estimate that was  18 reported in the Langseth 2008 study, correct?  19 A That's correct.  20 Q And the Langseth 2008 paper, the  21 meta-analysis that you and your coauthors  22 conducted resulted in a 1.35 relative risk,  23 correct?  24 A That's correct.  25 Q And in Exhibit 10, your report in the</p>

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<p style="text-align: right;">Page 150</p> <p>1 MDL, the relative risk point for your 2018 2 meta-analysis is 1.28, correct? 3 A In the 2018 -- yes, that's correct. 4 Q Is it your opinion -- well, let me just 5 ask you, what classification should perineal use 6 of talc get with respect to ovarian cancer under 7 the IARC scale? 8 MS. PARFITT: Objection. Form. 9 THE WITNESS: I -- I'm very reluctant to 10 answer that question because it takes a lot of 11 input from different disciplines to produce an 12 IARC evaluation and then IARC classification. And 13 I feel it's presumptuous for any one person from 14 one discipline to take on that function. 15 What I can say is that in this 16 situation, the epidemiologic evidence alone is 17 sufficient to make the -- make me think that it's 18 more likely than not that there is a causal 19 association. How that proposition would feed into 20 an IARC evaluation is something that would -- that 21 a multidisciplinary group would need to work out, 22 but I think there's at least enough evidence to 23 say it's more likely than not. 24 BY MS. BRANSCOME: 25 Q Because you would agree that a work --</p>	<p style="text-align: right;">Page 152</p> <p>1 causality, but it's not a one-to-one kind of 2 relationship. 3 Now I've lost the thread. I'm sorry. 4 BY MS. BRANSCOME: 5 Q That's okay. I'm going to ask you the 6 question again. 7 Simply the fact that the epidemiological 8 evidence -- 9 A Yeah. 10 Q -- may support a conclusion that more 11 likely than not perineal talc use can cause 12 ovarian cancer, that fact alone is not sufficient 13 to result in a Group 2A classification of a 14 chemical under IARC. 15 MS. PARFITT: Objection. Form. 16 BY MS. BRANSCOME: 17 Q Is that fair? 18 A It's fair -- in principle, it's a fair 19 statement. My feeling is that if that occurred in 20 a meeting, and if -- you know, in an IARC Working 21 Group, the group is subdivided into four 22 subgroups: Initially, an epidemiology group, 23 animal experimentation group, other biological 24 mechanisms, and then expose -- an exposure group. 25 If the epidemiology group came back, had</p>
<p style="text-align: right;">Page 151</p> <p>1 an IARC Working Group, for example, if a former -- 2 formal evaluation was done on talc, in order to 3 classify talc as say a Group 2A, that working 4 group would need to consider multiple lines of 5 evidence, correct? 6 MS. PARFITT: Objection. Form. 7 THE WITNESS: That's correct. 8 BY MS. BRANSCOME: 9 Q And simply the determination, if it were 10 the case that the epidemiological evidence might 11 support the conclusion that perineal use of talc 12 more likely than not can cause ovarian cancer, 13 would not by itself be sufficient for a Group 2A 14 rating. Is that fair? 15 MS. PARFITT: Objection. Form. 16 THE WITNESS: The IARC classification 17 was developed in the 1970s. It was not developed 18 in order to fit into a template that can be used 19 in the courtroom. So terms like "more likely than 20 not" or, you know, whatever terminology would be 21 used in a courtroom around this sort of thing does 22 not fit perfectly on the IARC classification 23 scale. 24 I understand why courts use IARC 25 evaluations as an input to understanding</p>	<p style="text-align: right;">Page 153</p> <p>1 a feeling that there likely -- it was more likely 2 than not that there is a causal association, they 3 have the prerogative to categorize the evidence as 4 being sufficient or limited. And it's not clear 5 how they would categorize the epidemiologic 6 evidence. That would feed into the final 7 evaluation. 8 Q So you would say, as you sit here today, 9 based on what you know about the epidemiological 10 evidence with respect to the perineal use of talc 11 and ovarian cancer, it's not clear whether that 12 would satisfy the criteria for sufficient evidence 13 of carcinogenicity. Is that fair? 14 MS. PARFITT: Objection. Misstates his 15 testimony. 16 THE WITNESS: For -- for a particular 17 working group. Because the other particularity of 18 the IARC process, as with other -- from high level 19 scientific processes, is that it depends a lot on 20 scientific judgment. There's -- there are 21 guidelines for how to combine animal evidence and 22 basic biology evidence in epidemiology, but all of 23 these guidelines are just models of how the final 24 evaluation might be determined. 25 Each working group is sovereign and can</p>

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<p style="text-align: right;">Page 154</p> <p>1 take the entire body of evidence and make a</p> <p>2 decision outside the -- the template -- the -- the</p> <p>3 typical template. So a working group could look</p> <p>4 at the evidence and decide is it Group 1, it's</p> <p>5 Group 2B, Group 2A, based on the totality of</p> <p>6 evidence.</p> <p>7 In general, if the epidemiology is</p> <p>8 convincing, it would be Group 1 or Group 2A if</p> <p>9 it's convincing but not -- or let's say if it's --</p> <p>10 if it indicates a risk but it's not definitive.</p> <p>11 BY MS. BRANSCOME:</p> <p>12 Q So you would say if the epidemiology</p> <p>13 indicates a risk but is not definitive, you think</p> <p>14 there's a possibility a chemical would be</p> <p>15 classified as Group 1?</p> <p>16 MS. PARFITT: Objection. Form.</p> <p>17 THE WITNESS: It depends how close to</p> <p>18 definitive it is. So if the feeling of the group</p> <p>19 is that it's almost certain on the basis of</p> <p>20 epidemiologic evidence, then they could classify</p> <p>21 it as Group 1, and they would classify the</p> <p>22 epidemiologic evidence as sufficient in that case.</p> <p>23 BY MS. BRANSCOME:</p> <p>24 Q Okay. On the scale of definitiveness,</p> <p>25 where would you place the evidence of the perineal</p>	<p style="text-align: right;">Page 156</p> <p>1 (A discussion was held off the record.)</p> <p>2 BY MS. BRANSCOME:</p> <p>3 Q Do you remember what you were answering</p> <p>4 or should we --</p> <p>5 A I prefer if -- I'm sorry. If you could</p> <p>6 ask again and --</p> <p>7 Q Let me ask it a different way. Is it</p> <p>8 possible for a confounding variable to essentially</p> <p>9 infect all of the epidemiology on a particular --</p> <p>10 looking at a particular causal relationship?</p> <p>11 MS. PARFITT: Objection. Form.</p> <p>12 THE WITNESS: It is possible.</p> <p>13 BY MS. BRANSCOME:</p> <p>14 Q Okay. If that were to happen and you</p> <p>15 see evidence in the epidemiology that shows a</p> <p>16 consistent increase in risk but there's the</p> <p>17 potential for a confounding variable, would it be</p> <p>18 important to look at the potential biological</p> <p>19 mechanism to see whether or not the agent might be</p> <p>20 causing the outcome?</p> <p>21 A So the confounding factor is -- is a</p> <p>22 factor that could be captured in epidemiologic</p> <p>23 studies but hasn't been. Is that what you are</p> <p>24 alluding to? And the biologic -- but the biologic</p> <p>25 mechanism that you're referring to would involve</p>
<p style="text-align: right;">Page 155</p> <p>1 use of talc and ovarian cancer as of today?</p> <p>2 A Based on the epidemiologic evidence.</p> <p>3 Q Correct.</p> <p>4 A I -- I go back to more likely than not.</p> <p>5 Not -- not definite, but more likely than not.</p> <p>6 Q Is it possible to have a situation where</p> <p>7 the epidemiological evidence is supportive of a</p> <p>8 causal association, but the group working on</p> <p>9 biological mechanism determines that there isn't a</p> <p>10 sufficient mechanism by which that chemical could</p> <p>11 have caused that outcome?</p> <p>12 A That can happen.</p> <p>13 Q And what would the explanation for an</p> <p>14 inconsistency like that be?</p> <p>15 A It would require quite a high level of</p> <p>16 understanding of the mechanistic evidence.</p> <p>17 So -- I -- I don't know if it has</p> <p>18 happened, so I'm -- I'm trying to think through</p> <p>19 memory whether I can think of any examples. I'm</p> <p>20 not sure that it has happened.</p> <p>21 THE VIDEOGRAPHER: Excuse me, Counsel.</p> <p>22 The microphone just fell.</p> <p>23 THE WITNESS: Oh, I'm sorry.</p> <p>24 MS. BRANSCOME: That's okay. You just</p> <p>25 knocked off your microphone.</p>	<p style="text-align: right;">Page 157</p> <p>1 that confounding factor or is this -- are you --</p> <p>2 are you confounding "confounding" with -- with</p> <p>3 biologic mechanism issues?</p> <p>4 Q Okay. Let me -- let me give you a</p> <p>5 specific hypothetical.</p> <p>6 A Yes.</p> <p>7 Q Okay. So let's say hypothetically, for</p> <p>8 example, recall bias --</p> <p>9 A Okay.</p> <p>10 Q -- affects the epidemiology related to</p> <p>11 looking at the causal relationship, and whether</p> <p>12 you agree with it or not, but we'll just say</p> <p>13 hypothetically that affected the epidemiology of</p> <p>14 talc use and ovarian cancer.</p> <p>15 A Can I just interrupt for a</p> <p>16 terminological thing? So typically we don't refer</p> <p>17 to recall bias as a confounding factor.</p> <p>18 Q Ah.</p> <p>19 A We refer to it as a bias, a type of</p> <p>20 bias, but -- you know, that's just technical, but</p> <p>21 for the record, if we're going to be discussing</p> <p>22 this further.</p> <p>23 Q I appreciate the clarification.</p> <p>24 A Thank you.</p> <p>25 Q Well, first of all, let me just ask you,</p>



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<p style="text-align: right;">Page 158</p> <p>1 is recall bias something that could affect the</p> <p>2 reliability of conclusions drawn from</p> <p>3 epidemiological studies that rely on recall to</p> <p>4 define exposure to the agent?</p> <p>5 A Yes, it could, hypothetically.</p> <p>6 Q Okay. Is recall bias something that</p> <p>7 potentially could affect the epidemiological</p> <p>8 studies of the perineal use of talc?</p> <p>9 A Yes, theoretically, it could.</p> <p>10 Q Okay. In situations where there is a</p> <p>11 potential bias or a confounding variable that has</p> <p>12 not been identified, how should epidemiological</p> <p>13 evidence be evaluated in comparison to the other</p> <p>14 categories of evidence that are considered, for</p> <p>15 example, by an IARC Working Group?</p> <p>16 A Well, these things would typically be</p> <p>17 evaluated in a -- a nonquantitative way. You</p> <p>18 can't really quantify what is the potential impact</p> <p>19 of a confounder that you don't know about or that</p> <p>20 you haven't measured. It's kind of a theoretical</p> <p>21 thing.</p> <p>22 And the same with -- with recall bias</p> <p>23 where there could be some evidence about it. And</p> <p>24 certainly when I reviewed the evidence on this</p> <p>25 topic, the possibility of recall bias was one of</p>	<p style="text-align: right;">Page 160</p> <p>1 exposures, all -- you know, environmental things</p> <p>2 that they've been exposed to, et cetera, there --</p> <p>3 there's no reason why exposure to talc would be</p> <p>4 the one item in epidemiologic questionnaires that</p> <p>5 would provoke recall bias where nothing else does.</p> <p>6 So if it's a part of a general</p> <p>7 phenomenon, this recall bias, which is certainly a</p> <p>8 hypothetical possibility, we would see that most</p> <p>9 of the associations that were tested in case-</p> <p>10 control studies would be found to be high risks,</p> <p>11 maybe significantly high risks.</p> <p>12 That's not what we observed. That's not</p> <p>13 what I've observed in my research. I have</p> <p>14 estimated -- and in the book that I showed this</p> <p>15 morning, there are literally thousands of odds</p> <p>16 ratio estimates in there. But in all of my</p> <p>17 research on over nearly four decades, I've</p> <p>18 published a lot of evidence, and I can show some</p> <p>19 examples, where there's no difference between</p> <p>20 cases and controls because there is no effect,</p> <p>21 there's no causal association between the two</p> <p>22 things, and the case -- although people were --</p> <p>23 cases were asked about, let's say, alcohol</p> <p>24 consumption, and controls were asked about alcohol</p> <p>25 consumptions, the cases didn't overreport. They</p>
<p style="text-align: right;">Page 159</p> <p>1 the main stumbling blocks to arriving at an</p> <p>2 opinion, as it was for the IARC panel in 2006.</p> <p>3 You know, we are all aware of that hypothetical</p> <p>4 possibility, and we think about whether something</p> <p>5 of that magnitude -- something like that could</p> <p>6 artifactually generate an appearance of a relative</p> <p>7 risk.</p> <p>8 My own way of dealing with that was to</p> <p>9 look at the phenomenon of recall bias from the</p> <p>10 perspective of both my own research, which has</p> <p>11 mainly involved case-control studies, some cohort</p> <p>12 studies but mainly case-control studies, and</p> <p>13 research that I've read about, experienced,</p> <p>14 reviewed for journals, et cetera.</p> <p>15 And if the phenomenon of recall bias</p> <p>16 were sort of a general across-the-board phenomenon</p> <p>17 that infects and in a way discredits all</p> <p>18 case-control studies -- interviewing cases, people</p> <p>19 who are sick people, interviewing people who are</p> <p>20 well and comparing the responses -- if this were</p> <p>21 an inherent systemic problem, what we would</p> <p>22 observe in general would be a plethora of fake</p> <p>23 excess risks. Because almost everything you would</p> <p>24 ask people about, whether it's smoking, alcohol</p> <p>25 consumption, physical activity, diet, workplace</p>	<p style="text-align: right;">Page 161</p> <p>1 didn't say, Oh, well, they want to know if this</p> <p>2 caused my cancer, and therefore I'm going to tell</p> <p>3 them, yes, I consumed a lot of beer and wine and</p> <p>4 so on, or smoking or whatever.</p> <p>5 So we don't see this as a general</p> <p>6 phenomenon that people overreport -- that cases</p> <p>7 overreport compared to controls.</p> <p>8 Q Have you looked at the phenomenon of</p> <p>9 recall bias specifically when the agent being</p> <p>10 investigated is part of public wide -- wide scale</p> <p>11 litigation?</p> <p>12 MS. PARFITT: Object to form.</p> <p>13 THE WITNESS: So I haven't personally --</p> <p>14 let me just think if any of my research has</p> <p>15 involved situations analogous to that.</p> <p>16 Yes. Cell phones and brain cancer. So</p> <p>17 I was involved in a large cell phone and brain</p> <p>18 cancer study, and we asked cases about their use</p> <p>19 of cell phones, and we asked controls about their</p> <p>20 use of cell phones. And while the interpretation</p> <p>21 of the results of the study were somewhat</p> <p>22 controversial, there was no generalized phenomenon</p> <p>23 of cases reporting more cell phone use than</p> <p>24 controls in that particular study.</p> <p>25 So that -- I can't think of another</p>

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<p style="text-align: right;">Page 162</p> <p>1 example in my career of sort of one of these  2 generally suspected things. I mean, I've studied  3 a lot of occupational exposures, but those tend to  4 be more obscure, and people don't, you know, have  5 the same visceral reaction maybe to were you  6 exposed to formaldehyde or benzene or this or  7 that.  8 BY MS. BRANSCOME:  9 Q For purposes of your meta-analysis, you  10 looked at the binary question of ever having used  11 talc and never having used talc, correct?  12 A Among other -- not only that, but that  13 in addition to, yeah.  14 Q Yes. For example, you were not -- your  15 data isn't stratified based off of having used it  16 to a certain degree of frequency, correct?  17 A The -- the meta-analysis, no.  18 Q Okay.  19 A I -- I looked at dose-response  20 information within the studies that provided it,  21 but I didn't do any meta-analyses of the -- of the  22 dose-response data.  23 Q Okay. So I -- I asked you sort of the  24 broad question about what has changed in the  25 scientific literature with respect to perineal use</p>	<p style="text-align: right;">Page 164</p> <p>1 A Yeah.  2 Q Are those areas in which you contend  3 there is developments in the scientific literature  4 that is relevant to the question of the connection  5 between perineal use of talc and ovarian cancer?  6 A Yes.  7 Q Okay. So I just wanted to talk to you  8 about which of those categories you are  9 independently offering an expert opinion as  10 opposed to you are deferring to others. Does that  11 make sense?  12 A Yes.  13 Q All right. So you are offering an  14 expert opinion about developments in the  15 epidemiology, correct?  16 A Correct.  17 Q Are you testifying as an expert in  18 developments in the scientific literature with  19 respect to toxicology?  20 A No.  21 Q Are you testifying as an expert with  22 respect to developments in the scientific  23 literature in molecular biology?  24 A No. I -- I'm aware that there have been  25 some publications since 2006 in that domain, but</p>
<p style="text-align: right;">Page 163</p> <p>1 of talc since the 2006 IARC Working Group, but I  2 want to point you now sort of specific to what you  3 say in your report and ask you some more detailed  4 questions about what's changed.  5 So if you could turn to page 67 of  6 Exhibit 10 there.  7 A Yes.  8 Q Sorry, just one moment. My pencil has  9 died on me. Just give me one second. All right.  10 All right. So you have a Section 9 here  11 that says: "Contrast with IARC monograph and  12 other reviews." Do you see that?  13 A I do.  14 Q All right. And you asked the question  15 in your report: "What has changed in the years  16 since the IARC review?" Correct?  17 A Correct.  18 Q All right. And you talk about  19 additional studies and scientific literature  20 addressing a variety of topics, including  21 epidemiology, toxicology, molecular biology and  22 mechanistic studies; is that correct?  23 A Sorry, are -- you're saying that I  24 referred to those domains?  25 Q Yes.</p>	<p style="text-align: right;">Page 165</p> <p>1 I'm not offering an opinion about those.  2 Q Are you offering an opinion with respect  3 to the biological mechanism by which the perineal  4 use of talc may or may not cause ovarian cancer?  5 A Not an opinion. Again, I'm -- I'm  6 acknowledging that there is new evidence, and I  7 mention some of that, yes.  8 Q But as an expert, you're not here to  9 opine on the strengths and weaknesses of that  10 evidence or how it might be weighted against other  11 evidence that's in the field related to biological  12 mechanism; is that fair?  13 MS. PARFITT: Objection. Form.  14 THE WITNESS: That's correct.  15 BY MS. BRANSCOME:  16 Q Okay. Now, you state in your report  17 that: "The various possible biases" -- this is  18 still on page 67 -- "that are on the table remain  19 substantially similar to the ones that were  20 considered by the IARC panel." Correct?  21 A Correct, I said that.  22 Q Okay. What are the various possible  23 biases that you refer to there?  24 A Well, I -- I'd have to go back to the  25 IARC 2006 report to give you a full answer, but I</p>

42 (Pages 162 to 165)

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<p style="text-align: right;">Page 166</p> <p>1 guess the main things that were highlighted at the</p> <p>2 time were measurement error, how to assess</p> <p>3 exposure to talc, and what the impact of</p> <p>4 measurement error might be on the estimates,</p> <p>5 recall bias and the possible impact that that</p> <p>6 might have.</p> <p>7 Q What do you mean by "measurement error"?</p> <p>8 A Measurement error is closely related to</p> <p>9 recall bias, but it's not the same thing.</p> <p>10 Measurement -- recall bias refers to differences</p> <p>11 between cases and controls in the way they</p> <p>12 respond. Measurement error refers to inaccurate</p> <p>13 recall and reporting, irrespective of whether</p> <p>14 there are cases and controls. There can be</p> <p>15 exactly the same degree of error in -- in recall</p> <p>16 between cases and controls.</p> <p>17 So it's not differential. It's not --</p> <p>18 it's not a recall bias between the two groups.</p> <p>19 But if there's error, if some people report high</p> <p>20 use, and in fact they had medium use and all --</p> <p>21 all this sort of thing, that impacts the estimates</p> <p>22 of relative risk -- even though those errors are</p> <p>23 the same in the cases and controls, that impacts</p> <p>24 the estimates of relative risk, and that generally</p> <p>25 impacts it in the direction of attenuating the</p>	<p style="text-align: right;">Page 168</p> <p>1 there is error in diagnose -- I guess you -- what</p> <p>2 you're alluding to -- let me make sure, you're</p> <p>3 alluding to possible misdiagnosis between</p> <p>4 mesothelioma and ovarian cancer. Is that where</p> <p>5 you're going?</p> <p>6 Q That -- that is one possibility, yes.</p> <p>7 A So in the case of a -- in this situation</p> <p>8 of a cohort study, following up a group of women,</p> <p>9 some of them really get mesotheliomas that are not</p> <p>10 linked to talc exposure, but those women are</p> <p>11 classified as ovarian cancers erroneously.</p> <p>12 They -- that error would have the effect of</p> <p>13 reducing the apparent risk compared to the real</p> <p>14 risk of talc and ovarian cancer. In that context,</p> <p>15 it would have that effect.</p> <p>16 In the context of a case-control study,</p> <p>17 where you start with a group of women who have</p> <p>18 been diagnosed with ovarian cancer but in truth</p> <p>19 some of them had peritoneal mesotheliomas, and you</p> <p>20 compare them to controls, the women who -- and</p> <p>21 assuming that talc has no effect on peritoneal</p> <p>22 mesothelioma, which is another assumption to make,</p> <p>23 but -- but assuming that it does on ovarian</p> <p>24 cancer, just for the sake of argument, lumping in</p> <p>25 the mesotheliomas with the ovarian cancer cases</p>
<p style="text-align: right;">Page 167</p> <p>1 relative risk estimates, lowering them from what</p> <p>2 they really are.</p> <p>3 So that's one error -- one type of error</p> <p>4 that is -- that permeates epidemiology and that is</p> <p>5 present, and that we have to be conscious of and</p> <p>6 try to evaluate.</p> <p>7 Q Could there be measurement error related</p> <p>8 to misdiagnoses?</p> <p>9 A Yes.</p> <p>10 Q And if there was misdiagnoses in the</p> <p>11 sense that someone was diagnosed with ovarian</p> <p>12 cancer but in fact had a different form of cancer,</p> <p>13 that could actually result in an artificially</p> <p>14 inflated relative risk, correct?</p> <p>15 MS. PARFITT: Objection. Form.</p> <p>16 THE WITNESS: So that kind of error in</p> <p>17 diagnosis has subtly different meaning in the</p> <p>18 context of a case-control study and a cohort</p> <p>19 study. And if -- if you want, I'll -- I could try</p> <p>20 to answer your question in -- in each context.</p> <p>21 BY MS. BRANSCOME:</p> <p>22 Q Okay.</p> <p>23 A So it has an effect in both contexts,</p> <p>24 but it's a slightly different effect.</p> <p>25 So in the context of a cohort study, if</p>	<p style="text-align: right;">Page 169</p> <p>1 would again create a reduction in the estimate of</p> <p>2 relative risk.</p> <p>3 So in both situations -- I would have to</p> <p>4 work it out on a pad of paper, but I think in both</p> <p>5 cases -- and I did write something about this in</p> <p>6 my report, so if you don't --</p> <p>7 Q Feel free to take a look. Sure.</p> <p>8 A -- mind. Thinking out loud in the</p> <p>9 middle of a deposition is sometimes harder than</p> <p>10 thinking out loud at home. (Peruses document.)</p> <p>11 So I'm looking at page 57,</p> <p>12 Section 7.2.5, at the bottom of the page and then</p> <p>13 going on to the next page, and see if what I said</p> <p>14 then is -- corresponds roughly to what I just</p> <p>15 said.</p> <p>16 I think basically it -- it agrees with</p> <p>17 what I just said. Basically the effect would be</p> <p>18 to attenuate estimates in this situation.</p> <p>19 Q So we discussed -- of the various</p> <p>20 possible biases that might affect the</p> <p>21 epidemiology, we talked about measurement error,</p> <p>22 recall bias, diagnostic error.</p> <p>23 Are there any other potential biases</p> <p>24 that should be considered when evaluating the</p> <p>25 epidemiology on the use of talc peritoneally?</p>

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<p style="text-align: right;">Page 170</p> <p>1 A Yes. So I -- I did list a bunch of</p> <p>2 possible biases in my report. And one of them --</p> <p>3 if you don't mind, I'll just go through the titles</p> <p>4 of the different things that -- starting on</p> <p>5 page 53.</p> <p>6 Bias due to nonresponse or</p> <p>7 nonparticipation. If you carry out a case-control</p> <p>8 study, and you get -- you identify a group of a</p> <p>9 hundred women who are cases, and you ask them to</p> <p>10 participate and only 50 agree to participate, and</p> <p>11 the ones who agree to participate happen to be the</p> <p>12 only ones who used talcum powder, and the other 50</p> <p>13 that you don't know about never used it, that</p> <p>14 would be a problem. And -- but it also depends</p> <p>15 what happens among the controls. Among the</p> <p>16 controls, do you get the same nonresponse bias?</p> <p>17 So there's a -- that is one possible bias in</p> <p>18 case-control studies.</p> <p>19 The second one I listed was recall or</p> <p>20 reporting bias that we've discussed.</p> <p>21 The third one is what I call</p> <p>22 nondifferential or random error, which we</p> <p>23 discussed. It's error in reporting that is equal</p> <p>24 in cases and controls, but it has an impact on</p> <p>25 relative risk estimates.</p>	<p style="text-align: right;">Page 172</p> <p>1 other biases. And this is why I corrected you at</p> <p>2 the beginning when we were talking about</p> <p>3 confounding and bias. I mean it's not -- I'm not</p> <p>4 criticizing you in any way for this. It's --</p> <p>5 there is terminological gray zones in</p> <p>6 epidemiology, so it's not always clear. But --</p> <p>7 Q Would it be fair to describe a</p> <p>8 confounding variable in the context of ovarian</p> <p>9 cancer as something that as of now is unknown that</p> <p>10 makes a particular individual more likely to</p> <p>11 develop ovarian cancer that also, for whatever</p> <p>12 reason, makes them more likely to use talcum</p> <p>13 powder?</p> <p>14 A Yes. That would be a correct</p> <p>15 interpretation of "confounding."</p> <p>16 Q And that is something that should be</p> <p>17 taken into account in evaluating the epidemi- --</p> <p>18 epidemiological literature, correct?</p> <p>19 A That's correct.</p> <p>20 Q And you would agree that the scientific</p> <p>21 community at large has not yet understood all of</p> <p>22 the potential factors that might contribute to a</p> <p>23 susceptibility to develop ovarian cancer, correct?</p> <p>24 MS. PARFITT: Objection. Form.</p> <p>25 THE WITNESS: Sorry, I -- I was hearing</p>
<p style="text-align: right;">Page 171</p> <p>1 The fourth one, which we haven't</p> <p>2 discussed, has to do -- it's mainly a problem for</p> <p>3 cohort studies. And if you carry out a cohort</p> <p>4 study of -- focused on cancer, and you collect</p> <p>5 information about exposure, and then follow them</p> <p>6 for two years to find out how many of them got</p> <p>7 cancer, and whether there is a difference between</p> <p>8 the people who were exposed and the people who are</p> <p>9 not exposed, well, that would be pretty hopeless</p> <p>10 because it takes more than two years for cancers</p> <p>11 to develop and be diagnosed. So short follow-up</p> <p>12 periods in cohort studies would be a source of</p> <p>13 bias in cohort studies.</p> <p>14 Diagnostic errors, we've just discussed.</p> <p>15 Initiation of powdering as a result of</p> <p>16 ovarian cancer, is it possible that some women</p> <p>17 who -- that there is a statistical association</p> <p>18 between powdering and ovarian cancer, but it's</p> <p>19 because the women who get ovarian cancer in the</p> <p>20 early stages, to relieve symptoms or to deal with</p> <p>21 discomfort start to use powdering. And so that is</p> <p>22 a potential bias.</p> <p>23 Confounding is the next category, and</p> <p>24 that's -- it's a huge category of potential</p> <p>25 distortion that is a little bit different from the</p>	<p style="text-align: right;">Page 173</p> <p>1 two things with my two ears.</p> <p>2 MS. PARFITT: Sorry.</p> <p>3 THE WITNESS: Can you repeat the last</p> <p>4 part?</p> <p>5 BY MS. BRANSCOME:</p> <p>6 Q Yeah. You would agree that all of the</p> <p>7 factors that might make someone susceptible to</p> <p>8 developing ovarian cancer are not currently known.</p> <p>9 A That's correct.</p> <p>10 So are -- are you -- are you getting at</p> <p>11 the potential impact of confounding as -- from</p> <p>12 unknown factors as something that hasn't been</p> <p>13 properly evaluated or that is part of this</p> <p>14 picture?</p> <p>15 Q I am simply asking you --</p> <p>16 A Yes.</p> <p>17 Q -- questions about your opinions.</p> <p>18 A Yes, yeah.</p> <p>19 Q But you agree that the possibility of an</p> <p>20 unknown confounding variable is something that, as</p> <p>21 an epidemiologist, you would at least consider</p> <p>22 when looking at the strength of association</p> <p>23 established by epidemiological studies, correct?</p> <p>24 A I would consider it, and I've considered</p> <p>25 it in the context of this literature, and in my</p>

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<p style="text-align: right;">Page 174</p> <p>1 opinion, it's unlikely that any confounding factor 2 or factors would create the pattern of results 3 that we see. 4 And if I could give you one piece of 5 evidence about why I -- you know, that illustrates 6 why I think that. A confounding factor can only 7 bias the result by a certain amount; not as strong 8 as its own relationship to the risk factor. 9 So if there's a risk fact- -- if the 10 relative risk that we see around 1.3 -- ballpark, 11 let's for the sake of argument say 1.3 -- is due 12 to a confounding factor, that confounding factor 13 would have to have an association with ovarian 14 cancer much strong -- stronger than 1.3, but much 15 stronger than 1.3. 16 And I can -- just to illustrate that, I 17 actually have a publication -- I think I gave you 18 a copy of that publication of mine that 19 illustrates my own research on occupational causes 20 of cancer -- 21 THE VIDEOGRAPHER: Sorry. 22 THE WITNESS: Am I again disconnected? 23 Okay. When I get excited... 24 Yes, that's the one. If I could -- 25 MS. PARFITT: Make a copy.</p>	<p style="text-align: right;">Page 176</p> <p>1 illustrate the potential impact of confounding in 2 this issue of ovarian cancer and talc, and what -- 3 to explain why I believe that the excess risks 4 that we observe are unlikely to be explained by 5 confounding. 6 Q Okay. You would agree, though, that if 7 there was a confounding variable that had a 8 relationship with, in this case, ovarian cancer 9 that was stronger than 1.3, it could explain an 10 increase of 1.3 associated with the use of talc if 11 it was similarly connected to the use of talcum 12 powder products -- 13 MS. PARFITT: Objection. Form. 14 BY MS. BRANSCOME: 15 Q -- correct? 16 MS. PARFITT: Objection. Form. 17 THE WITNESS: Well, one of the points 18 that I want to illustrate is that not only would 19 it have to be stronger than 1.3, it would have to 20 be a lot stronger than 1.3. 21 BY MS. BRANSCOME: 22 Q How strong would it need to be? 23 MS. PARFITT: Objection. Form. 24 THE WITNESS: I'll answer that by -- by 25 showing you what -- what we found when we were</p>
<p style="text-align: right;">Page 175</p> <p>1 THE WITNESS: Do you have any copies? 2 MS. PARFITT: I'm looking to see. 3 THE WITNESS: So -- well, if I could 4 just read a couple of sentences from the abstract 5 of this, I'll tell you what this is about. It's 6 a study of -- 7 BY MS. BRANSCOME: 8 Q Could you, please, Dr. Siemiatycki, 9 identify for me -- 10 A Oh. 11 Q -- what is the paper from which you are 12 reading. 13 A Yes. This is a paper called "Degree of 14 confounding bias related to smoking, ethnic group, 15 and socioeconomic status in estimates of the 16 associations between occupation and cancer." 17 Q Is this something that you cite to or 18 reference anywhere in the report that you 19 submitted in the MDL? 20 A It's only in my CV, which is I think 21 part of the record. 22 Q What led you to specially identifying 23 this article, which you seem to have handy today 24 here at the deposition? 25 A Because I was thinking about how to</p>	<p style="text-align: right;">Page 177</p> <p>1 examining the associations between different 2 occupations and lung cancer. 3 So occupation and lung cancer, there are 4 some true associations there, as you probably 5 know, but -- and we collected information about 6 people's occupations. We also collected 7 information about their smoking history, their 8 socioeconomic status, their ethnicity and so on. 9 A lot of factors. 10 But the most important part of this was 11 looking at the association between lung cancer and 12 smoking and -- lung cancer and occupation. We 13 chose I think 15 occupations, estimated the odds 14 ratios for 15 different associations between 15 occupations and lung cancer, and we controlled for 16 smoking or we didn't control for smoking. We 17 compared the results when you control for smoking 18 and when you don't compare -- control for smoking. 19 BY MS. BRANSCOME: 20 Q Respectfully, Dr. Siemiatycki, I only 21 have seven hours to ask you questions. 22 A Okay. 23 Q Your -- your -- counsel for the 24 plaintiffs can ask you to fully explain other 25 research that you've done.</p>

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<p style="text-align: right;">Page 178</p> <p>1 A Okay.</p> <p>2 Q It sounds very interesting.</p> <p>3 A Thank you.</p> <p>4 Q But my question to you is, in your</p> <p>5 opinion, how strong would an association have to</p> <p>6 be with a confounding variable in order to play a</p> <p>7 significant role in a 1.3 relative risk?</p> <p>8 A My --</p> <p>9 MS. PARFITT: Objection. Form.</p> <p>10 THE WITNESS: -- guess, it would have to</p> <p>11 be in the order of 3 to 5. Because it also</p> <p>12 depends on the association between a talc</p> <p>13 powdering behavior and this unknown confounder.</p> <p>14 BY MS. BRANSCOME:</p> <p>15 Q Okay. Are there limitations to</p> <p>16 performing a meta-analysis?</p> <p>17 MR. TISI: Do you want to mark that or</p> <p>18 no?</p> <p>19 MS. BRANSCOME: No.</p> <p>20 THE WITNESS: Are there --</p> <p>21 BY MS. BRANSCOME:</p> <p>22 Q -- limitations to performing a</p> <p>23 meta-analysis?</p> <p>24 A I -- I'm not sure what -- like --</p> <p>25 Q I believe you referenced earlier that</p>	<p style="text-align: right;">Page 180</p> <p>1 In -- one of the differences between --</p> <p>2 as I mentioned earlier, between -- some types of</p> <p>3 meta-analyses are carried out on clinical trials,</p> <p>4 in fact, I would say the bulk of meta-analysis is</p> <p>5 conducted in clinical trials research where the</p> <p>6 research protocols are really very standardized</p> <p>7 from one study to another, and that enhances the</p> <p>8 ability to make inferences from the results of a</p> <p>9 meta-analysis.</p> <p>10 In observational epidemiology, this</p> <p>11 isn't true. We have very different kinds of study</p> <p>12 design and problems that arise in different</p> <p>13 studies, and this leads in itself to variability</p> <p>14 and heterogeneity. And it is sometimes imagined</p> <p>15 that heterogeneity is a reflection -- some sort of</p> <p>16 a reflection of different risks in different</p> <p>17 populations or something like that. It's mainly</p> <p>18 -- it's at least in part a reflection of the fact</p> <p>19 that different study designs and different -- just</p> <p>20 not just the overall architecture of the design,</p> <p>21 but the implementation, how people were</p> <p>22 interviewed, what the questions were and so on,</p> <p>23 influences the results of a study. That varies</p> <p>24 from study to study, and that creates</p> <p>25 heterogeneity. So --</p>
<p style="text-align: right;">Page 179</p> <p>1 you teach a class on epidemiological</p> <p>2 methodologies; is that correct?</p> <p>3 A Yes.</p> <p>4 Q Okay. So presumably, when you teach a</p> <p>5 class you discuss the strengths and the</p> <p>6 limitations of different types of analyses. Fair?</p> <p>7 A It comes into the course, yes.</p> <p>8 Q Okay. So in the context of looking at</p> <p>9 the strengths and the weaknesses of different</p> <p>10 types of analyses, are there any weaknesses or</p> <p>11 limitations to a meta-analysis?</p> <p>12 A Weakness, okay. Because the word</p> <p>13 "limitation" doesn't always mean weaknesses.</p> <p>14 Meta-analysis depends on having reliable</p> <p>15 data. So the basic studies that you use and the</p> <p>16 basic data that you use in a meta-analysis has to</p> <p>17 be sufficiently reliable to support a good</p> <p>18 meta-analysis.</p> <p>19 The data have to be sufficiently</p> <p>20 comparable in nature. So putting apples and</p> <p>21 oranges and grapes into the same meta-analysis</p> <p>22 would be a problem. Different kinds of apples,</p> <p>23 yes, but different -- et cetera. So you have to</p> <p>24 be careful that you're really measuring the same</p> <p>25 thing, have the same outcomes.</p>	<p style="text-align: right;">Page 181</p> <p>1 Q Does heterogeneity -- do you want</p> <p>2 heterogeneity in a meta-analysis? Is it a good</p> <p>3 thing or does it weaken the meta-analysis?</p> <p>4 A It depends on the purpose of the</p> <p>5 meta-analysis. So some meta-analyses have as one</p> <p>6 of their objectives to identify populations in</p> <p>7 which the effect of the drug or the -- whatever</p> <p>8 you're studying is different from one population</p> <p>9 to another. That is a situation where you want to</p> <p>10 identify heterogeneity, and you want to try to</p> <p>11 target heterogeneity and the different</p> <p>12 populations, different studies, the different</p> <p>13 methods of administering medication, or whatever</p> <p>14 the differences are between studies.</p> <p>15 In observational epidemiology, it's</p> <p>16 rarely the case that heterogeneity -- that a</p> <p>17 formal evaluation of heterogeneity is -- is useful</p> <p>18 or actionable. Usually the bottom line result</p> <p>19 doesn't change. For example, there are</p> <p>20 meta-analyses of smoking and lung cancer where the</p> <p>21 meta-analysis demonstrates heterogeneity of the</p> <p>22 results. The results are always between a</p> <p>23 relative risk of 5 or 6 and a relative risk of 10</p> <p>24 or 12.</p> <p>25 Now, for the question of -- for the</p>

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<p style="text-align: right;">Page 182</p> <p>1 qualitative question does smoking cause lung  2 cancer, it really doesn't matter if the relative  3 risk is 5 or 12. So that heterogeneity has  4 absolutely no bearing on the question that is  5 being asked, and the best answer ignore -- would  6 ignore heterogeneity. It doesn't really matter.  7 If you're trying to find out in which  8 populations does smoking have a greater impact,  9 then you might want to say, Okay, let's -- which  10 are the populations where the relative risks were  11 5 and which are populations where the relative  12 risks are 12? Can we identify differences between  13 it? Are they different countries, different  14 ethnic groups, and so on and so forth.  15 So it's a longwinded answer, and I'm not  16 sure if that gets to the question that you were  17 asking.  18 Q Well, you said in your report -- and  19 it's on page 17, if you want to look at it -- you  20 stated -- it's at the top of the page.  21 A Yes.  22 Q "Unless a significant methodological  23 flaw can be identified that has caused the  24 heterogeneity, the best overall estimate remains  25 the meta-estimate."</p>	<p style="text-align: right;">Page 184</p> <p>1 of the weaknesses is that it is sometimes  2 fetishized, and that people put too much -- you  3 know, have sort of a magical belief in the value  4 of meta-analysis result, which is not justified.  5 Often the results of certain critical studies are  6 as valuable or more valuable than those of a  7 meta-analysis, especially when -- especially in  8 observational epidemiology when it's hard to  9 really identify all of the parameters that  10 influence the quality of a study.  11 And so determining what studies to  12 include and which data from each study to include  13 is tricky. It requires judgment. Those judgments  14 can be wrong. They can be contested. Sometimes  15 one very good study is as powerful, but -- it's  16 part of -- a meta-analysis is part of a package of  17 information that I would look at in evaluating the  18 risks.  19 Q Okay. You mentioned the concept that a  20 scientific judgment needs to be used in  21 determining what studies and, more specifically,  22 what data within those studies to include in a  23 meta-analysis, correct?  24 A That's correct.  25 Q And you would agree that -- and I</p>
<p style="text-align: right;">Page 183</p> <p>1 Did I read that correctly?  2 A Yeah. I guess we should read the  3 beginning of the sentence just to -- oh, yes. Oh,  4 yes, I see. Sorry. Yes, I agree with you.  5 Q So what is the basis for that statement?  6 A The basis is that it's correct. Are you  7 offering an alternative to this that I should  8 consider?  9 Q Is there -- I guess my question is, is  10 it -- is it correct because you think it is  11 correct? Or can you point me to something that  12 would support that principle and explain it more  13 fully?  14 A I -- I haven't looked for any  15 documentary evidence that this has been written up  16 in this way anywhere. I've been interpreting  17 meta-analyses in this way, and I believe this to  18 be true.  19 Q Okay. So we talked about a few  20 different things that you articulated as potential  21 weaknesses to a meta-analysis. Are there any  22 other weaknesses to a meta-analysis?  23 A Possibly. Are there any that you can  24 identify? I will be happy to -- you know, I'm  25 just -- to meta-analysis as a concept, I think one</p>	<p style="text-align: right;">Page 185</p> <p>1 believe you just referenced it -- that there can  2 be errors in judgment in determining what studies  3 to include or not include or what data to include  4 or not include, correct?  5 A I --  6 MS. PARFITT: Objection. Form.  7 THE WITNESS: I would not characterize  8 these things as errors in judgment. There can be  9 differences in judgment that are legitimate  10 that -- where people, equally well motivated and  11 well trained and experienced, can arrive at  12 different judgments on some of these things.  13 BY MS. BRANSCOME:  14 Q Did you have a specific methodology that  15 you used in determining which relative risk or  16 odds ratio to include from each of the studies  17 that you include in your meta-analysis?  18 A Carefully reading the study, carefully  19 reading the tables and the reports of what is in  20 the paper, understanding what is there, and then  21 making a determination on that basis.  22 Q And those were, to use your words,  23 quote, judgment calls; is that fair?  24 A Yes.  25 Q Okay.</p>

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<p style="text-align: right;">Page 186</p> <p>1 A There is no alternative to judgment in 2 science. 3 Q The meta-analysis in your MDL report is 4 different than the meta-analysis in your 2016 5 report; is that correct? 6 A The bottom line result, you're saying? 7 Well, yes, but also in the 2016 report, I 8 presented I think eight different estimates, 9 depending on scenarios of which studies to include 10 and which result from which studies to include, 11 because there were some borderline judgments where 12 I thought the best thing would be just -- just 13 provide all of the different options. 14 In 2018, I adopted a different strategy. 15 I thought, well, the best service I can provide 16 the court is to give my best estimate of which 17 studies and which data to include, and then to 18 provide a set of alternatives that I call 19 sensitivity analyses. So that's one difference 20 between the two reports. 21 Q Okay. 22 A But there were some differences in which 23 studies were included and which result in which 24 studies were included from the one to the other. 25 Q Well, let me start at the very basic</p>	<p style="text-align: right;">Page 188</p> <p>1 is the difference doing it this way or doing it 2 that way. 3 Q Okay. 4 A But it's largely overlapped. I mean, 5 I'll look at it and see if I can quickly recognize 6 which studies might have been -- 7 Q Well, I can point you -- 8 A Okay. If you've done it, that's great. 9 Q Yeah. So you included Green 1997 in 10 your 2016 meta-analysis, correct? 11 A Yes. 12 Q And you did not include Green 1997 in 13 your 2018 meta-analysis, correct? 14 A Correct. 15 Q Why did you -- did including Green 1997 16 in your earlier report, do you consider that to be 17 a flaw? 18 MS. PARFITT: Objection to form. 19 THE WITNESS: I don't consider any of 20 these things flaws. They were judgment calls, and 21 I -- actually, in that case, I learned in between 22 some information that I didn't know in 2016 that 23 made that decision the right one. 24 BY MS. BRANSCOME: 25 Q What information did you learn?</p>
<p style="text-align: right;">Page 187</p> <p>1 level. Are there any studies that are included in 2 your 2018 meta-analysis that were not available at 3 the time that you did your 2016 meta-analysis? 4 A I don't think so. 5 Q Okay. So you mention that you made some 6 changes to which studies you included and even 7 within that, some of your numbers are slightly 8 different. 9 Can you explain to me what changes you 10 made with respect to which studies to include? 11 A So somewhere I did the side-by-side 12 comparison, and I don't think I have -- I don't 13 think I have that with me. So it would take me a 14 bit of time to just compare the two and see how -- 15 how they compare. 16 Q So you generated actually a side-by-side 17 comparison of your 2016 meta-analysis and your 18 2018 meta-analysis? 19 A Well, of -- of the studies that went 20 into them. Well, generated is a kind of a 21 highfalutin word. I listed on a piece of paper, 22 and then I -- beside it I listed the other ones. 23 So I'm pretty sure I did that at some point just 24 to make sure. If I didn't do it on paper, I did 25 it in my mind. I wanted to know, you know, what</p>	<p style="text-align: right;">Page 189</p> <p>1 A Well, a case-control study was carried 2 out in Australia by a team that involved Green and 3 Purdie, and the publication in 1995, I think it 4 was, described their analysis -- sorry, do you 5 want me to stop while you're -- 6 Q Keep going. 7 A The paper in Purdie 1995, I think it is, 8 described the association between talc and ovarian 9 cancer. I had that in my database. 10 And I also had -- a couple of years 11 later, there was a paper by Green that was not 12 focused on talc. It was focused on risks that 13 were related to -- to other -- well, to other 14 gynecological issues in relation to ovarian 15 cancer. But in there she -- in the text, not in 16 any table but in the text, she provided a result 17 on talc and ovarian cancer. 18 Because that paper was published in 19 2000 -- in 1997, the Green, et al., paper, I 20 assumed that that was an extension of the 2000 -- 21 of the data that was used for the 1995 paper, and 22 that it actually included more information and 23 more up-to-date information than the 1995 paper 24 published two years earlier. I had some doubts 25 about that. But that was the decision I made in</p>

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<p style="text-align: right;">Page 190</p> <p>1 2016. In general, when there were different 2 reports from the same study at different 3 intervals, I took the most recent one as being the 4 more definitive one. 5 When I started analyzing for the 2018 6 report, I had lingering -- I remained with the 7 lingering doubts about the Green study -- the 8 Green report and whether it actually was an 9 updated version of the talc results from 2016 -- 10 from my 2016 report. 11 And I wrote to Adele Green, who I know 12 as an acquaintance, not well but enough to write 13 and say, You know, what's going on with these -- 14 what was going on with these two papers? Is it 15 the fact that the result -- which one has the most 16 definitive result on talc and ovarian cancer, the 17 earlier one or the more recent one? And she wrote 18 back and said, The earlier one does. That the 19 later one -- and I can't remember the exact 20 explanation, but it had to do with some cases 21 being dropped because of reasons having nothing to 22 do with talc but having to do with other 23 hypotheses that she was examining. 24 So in any case, the two results are 25 identical. So it makes no difference. But that</p>	<p style="text-align: right;">Page 192</p> <p>1 studies over time, the relative risk for the 2 association between peritoneal use of -- I mean 3 perineal use of talc and the development of 4 ovarian cancer has actually gone down? 5 MS. PARFITT: Objection. Form. 6 THE WITNESS: I -- I haven't evaluated 7 that, and I have no reason to agree or disagree 8 with it. If you want me to spend a bit of time 9 looking to see if I can -- 10 BY MS. BRANSCOME: 11 Q Well, for example -- 12 A -- confirm or -- 13 Q You are familiar with the Berge 2018 14 paper, correct? 15 A Yeah, yeah. 16 Q And the authors in that paper said: "We 17 confirm the trend toward lower overall risk 18 estimates as more evidence accumulated." 19 MS. PARFITT: Can we get that article in 20 front of him? 21 MS. BRANSCOME: Of course. 22 MS. PARFITT: Thank you. 23 MS. BRANSCOME: It is tab 48. 24 (A discussion was held off the record.) 25 MS. PARFITT: It's tab 18?</p>
<p style="text-align: right;">Page 191</p> <p>1 is, in answer to your question, why did it change, 2 it wasn't capricious issues. It wasn't wrong. It 3 was the right thing to do. 4 Q Did you retain copies of the e-mail 5 correspondence that you had with Green? 6 A I imagine that I did, but I -- this 7 would have been eight months ago maybe or 8 something. 9 Q Would it be fair to say that you relied 10 on Green's representation of which dataset was 11 more fulsome in determining what to use in your 12 2018 metadata? 13 A Yes. 14 Q And that was something she communicated 15 to you by e-mail, correct? 16 A That's right. 17 MS. BRANSCOME: We can meet and confer 18 about this offline, but we would request 19 production of those e-mails. 20 MS. PARFITT: We'll take it under 21 advisement. Thank you. 22 MS. BRANSCOME: Okay. 23 BY MS. BRANSCOME: 24 Q Do you agree that in terms of the trend 25 for relative risk, with the addition of newer</p>	<p style="text-align: right;">Page 193</p> <p>1 THE WITNESS: Tab 48? 2 BY MS. BRANSCOME: 3 Q Tab 48. 4 A I don't have a tab 48. 5 Q It may be in your second binder. 6 A Oh. 7 MS. PARFITT: I will take this one out. 8 And I'll take this one for you. 9 THE WITNESS: Thank you. 10 MS. PARFITT: Of course. 11 THE WITNESS: Thank you. 12 BY MS. BRANSCOME: 13 Q Dr. Siemiatycki, are you familiar with 14 the article that is located there behind tab 48? 15 A Yes, I am. 16 Q Berge is the lead author on this 17 publication titled "Genital use of talc and risk 18 of ovarian cancer: A meta-analysis." Correct? 19 A Yes, correct. 20 Q I believe earlier you said that Berge 21 "beat you to the punch" might have been the phrase 22 that you used. 23 What did you mean by that? 24 A If this had never appeared, I might have 25 worked on a manuscript to submit for publication</p>

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<p style="text-align: right;">Page 194</p> <p>1 on my meta-analysis before today, sometime in the 2 past. 3 Q Do you rely on Berge 2018? 4 MS. BRANSCOME: Let's go ahead and mark 5 that actually as Exhibit 12. 6 (Exhibit No. 12 was marked for 7 identification.) 8 MR. TISI: How long have we been going? 9 How long have we been going? 10 MS. BRANSCOME: Just under five hours. 11 MR. TISI: No, how long have we been 12 going on this one? 13 MS. BRANSCOME: We can take a break 14 if -- do you need a break? 15 MR. TISI: I'm just asking. 16 MS. PARFITT: Do you want a break? 17 THE WITNESS: No, let's finish -- let's 18 finish with this. 19 MS. PARFITT: Okay. 20 (A discussion was held off the record.) 21 BY MS. BRANSCOME: 22 Q Do you rely in forming your opinions on 23 this case on the Berge article that we just marked 24 as Exhibit 12? 25 A I formed my opinions before knowing</p>	<p style="text-align: right;">Page 196</p> <p>1 here that I'm -- I haven't fully integrated into 2 my evaluation of this paper. But I know what's in 3 it. I know what's the other one. I know what's 4 in this one. 5 Q Okay. So back to my question, 6 Dr. Siemiatycki. 7 A Yeah. 8 Q You stated that you believe that the 9 Berge 2018 study supports the conclusions that you 10 have reached in this litigation, and my question 11 to you was, what do you mean by that? 12 A Well, it supports it in a few ways. 13 One -- and from my point of view, the most 14 important one, but probably not for anyone else -- 15 is that they carried out a search of the 16 literature using a much more intensive and -- a 17 much more intensive procedure than I had. I had 18 full confidence in the procedure that I had used, 19 but it was not as long, as lengthy, as costly, et 20 cetera, et cetera, as what -- and the bottom line 21 was that they didn't find any papers -- relevant 22 papers that I hadn't found. So I was very 23 reassured by this. 24 The second thing is that the bottom line 25 meta-analysis result -- well, no, the second thing</p>
<p style="text-align: right;">Page 195</p> <p>1 about this article. 2 Q Do you believe that the Berge 2018 study 3 supports the conclusions that you have reached in 4 your own meta-analysis? 5 A Yes, I think it does. 6 Q In what way? 7 A Well, let me preface that also by saying 8 that there's been a bit of a -- a history to this 9 article of -- I thought the publication -- there 10 was a version published in 2017, which I thought 11 was the definitive version that I've always kept 12 in my binders as the Berge article, and it's only 13 very recently that I actually came upon this 14 particular version, which is not greatly changed 15 from the 2017 but slightly changed, and I haven't 16 fully digested the small changes that have been 17 made. 18 Q If you could -- sorry for the multiple 19 binders, but if you want to look at your first 20 binder, tab 13, we can see if that's the paper 21 that you previously had reviewed as the Berge 22 paper. 23 A I -- I don't mind answering questions in 24 relation to this version. Just -- I just wanted 25 to point out that there are a couple of things</p>	<p style="text-align: right;">Page 197</p> <p>1 is that the actual results that they chose from 2 the different studies were very similar in most 3 cases to the ones I had chosen from the different 4 study. So there was a degree of corroboration 5 there that I was happy about. 6 They adopted a different strategy in one 7 important respect, and that concerned how to deal 8 with the Terry paper and the various components of 9 the Terry paper. And with all due respect to this 10 team, I don't think that there -- theirs was in 11 error. I prefer my approach that maintained the 12 integrity of the pooled analysis, which has some 13 advantages. But there's -- you know, I wouldn't 14 expect any large differences on the bottom line 15 estimates from their strategy or my strategy. And 16 the bottom line results were very similar. 17 They -- also in the previous version, 18 their evaluation of dose-response was, in my view, 19 deficient in not devoting adequate weight to what 20 I think is the most important evidence around 21 dose-response in this area, which is the Terry 22 pooled analysis. They focused on studies which 23 provided results by duration of exposure and by 24 frequency of exposure. And I think it's the 25 combination of those two which is the most</p>



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<p style="text-align: right;">Page 198</p> <p>1 important metric.</p> <p>2 And the fact that the Terry analysis was</p> <p>3 able to combine an enormous dataset for evaluating</p> <p>4 dose-response, much greater than any of the</p> <p>5 studies looking at duration or any of the studies</p> <p>6 looking at frequency, meant that in my view they</p> <p>7 missed an opportunity to properly evaluate</p> <p>8 dose-response by cumulative exposure.</p> <p>9 I note very recently that they have --</p> <p>10 they've now used a different statistical procedure</p> <p>11 for evaluating dose-response by duration and</p> <p>12 frequency, which is embodied in their Table 3,</p> <p>13 which I don't fully understand. It seemed -- this</p> <p>14 was the new part of this study, which I haven't --</p> <p>15 I looked quickly in the method section to see a</p> <p>16 description of exactly what they did, and I</p> <p>17 couldn't find it, but I don't deny that it's</p> <p>18 somewhere in the article. I just haven't had time</p> <p>19 to properly evaluate that part of it.</p> <p>20 Q As you sit here today, do you have any</p> <p>21 criticisms of the statistical analysis that they</p> <p>22 performed?</p> <p>23 A All of it? You're referring to all of</p> <p>24 it? Well, I --</p> <p>25 MS. PARFITT: Objection. Form.</p>	<p style="text-align: right;">Page 200</p> <p>1 That's 2016. Okay.</p> <p>2 Q Dr. Siemiatycki, if you could just</p> <p>3 identify for the record where you're looking so I</p> <p>4 can follow along and the record reflects it.</p> <p>5 A Right. I'm looking in my report of 2018</p> <p>6 in the appendix, page 103, Appendix B.</p> <p>7 Q So looking at Appendix B, which also</p> <p>8 helpfully compares Penninkilampi as well, are</p> <p>9 there studies specifically focused on the Berge</p> <p>10 2018 that in your opinion the authors should have</p> <p>11 included in their meta-analysis?</p> <p>12 MS. PARFITT: Objection. Form.</p> <p>13 THE WITNESS: Okay. Well, just</p> <p>14 following this table, I see that Gates 2008 was in</p> <p>15 my report, but not in theirs. Now, it wasn't in</p> <p>16 my main analysis; it was in one of my sensitivity</p> <p>17 analyses. So I have no -- my main analysis and</p> <p>18 their main analysis concurred about Gates.</p> <p>19 The next one that I see that was in my</p> <p>20 analysis but not in theirs was what I call</p> <p>21 Schildkraut B. And Schildkraut B, for the record,</p> <p>22 is -- there's no such study, but I've named it</p> <p>23 Schildkraut B. It's the result of the analysis of</p> <p>24 the Schildkraut study of cases that were</p> <p>25 interviewed before 2014, I think it was.</p>
<p style="text-align: right;">Page 199</p> <p>1 THE WITNESS: I note that their bottom</p> <p>2 line meta-relative risk is lower than the one that</p> <p>3 I estimated. And I'm not sure why that is. To me</p> <p>4 the -- the difference in -- the minor differences</p> <p>5 in the studies included or excluded is not</p> <p>6 sufficient to explain that, and I wonder if it's a</p> <p>7 software issue, of them having used a different</p> <p>8 software for meta-analysis than I used. But it's</p> <p>9 not a criticism necessarily. I just note this</p> <p>10 discrepancy.</p> <p>11 BY MS. BRANSCOME:</p> <p>12 Q Are there any studies that you included</p> <p>13 in your meta-analysis in 2018 that the Berge</p> <p>14 authors failed to consider that you think they</p> <p>15 should have included?</p> <p>16 A So I'll go back to my report, because I</p> <p>17 do have a table outlining that in my report.</p> <p>18 MS. PARFITT: You want your report?</p> <p>19 THE WITNESS: Yeah, my report, back to</p> <p>20 my report.</p> <p>21 MS. PARFITT: Let me get you that.</p> <p>22 BY MS. BRANSCOME:</p> <p>23 Q And we'll take a break after we finish</p> <p>24 this paper.</p> <p>25 A Thank you.</p>	<p style="text-align: right;">Page 201</p> <p>1 BY MS. BRANSCOME:</p> <p>2 Q And we will discuss that in more detail,</p> <p>3 but do you consider it an error for the Berge</p> <p>4 authors to just have taken the Schildkraut 2016</p> <p>5 data as a whole?</p> <p>6 A No, I don't consider it an error. In</p> <p>7 fact, I used it -- not in my main analysis but in</p> <p>8 one of my sensitivity analyses.</p> <p>9 The same with Shushan. So Shushan '96</p> <p>10 was in my -- one of my sensitivity analyses, not</p> <p>11 in my main analysis, and they did not include it</p> <p>12 in their main analysis. So we agreed on the main</p> <p>13 analyses there.</p> <p>14 Terry, I included in mine, and they</p> <p>15 didn't include Terry. They included the component</p> <p>16 parts of Terry.</p> <p>17 So there was no -- there was no study</p> <p>18 that was in my main analysis that was not in</p> <p>19 theirs.</p> <p>20 Q Okay. And looking quickly back at the</p> <p>21 Berge article, coming full circle to the question</p> <p>22 that I started with, if you could look on page 253</p> <p>23 of that paper.</p> <p>24 MS. PARFITT: Yes, 253.</p> <p>25 BY MS. BRANSCOME:</p>

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<p style="text-align: right;">Page 202</p> <p>1 Q Under the Discussion section, do you see</p> <p>2 where I am?</p> <p>3 A Yes, I do.</p> <p>4 Q All right. The second paragraph under</p> <p>5 Discussion from the Berge paper states: "This</p> <p>6 meta-analysis suggests that genital powder use is</p> <p>7 associated with a small increased risk of</p> <p>8 developing ovarian cancer. However, this positive</p> <p>9 association appears to be limited to the serous</p> <p>10 histological type and to case-control studies."</p> <p>11 Did I read that correctly?</p> <p>12 A You read it correctly.</p> <p>13 Q It continues on: "This estimate is</p> <p>14 somewhat lower than that of previous</p> <p>15 meta-analysis," and in parentheses, it refers</p> <p>16 specifically to Huncharek and Langseth, colon, "In</p> <p>17 our cumulative meta-analysis, we confirmed the</p> <p>18 trend toward lower overall risk estimates as more</p> <p>19 evidence accumulated."</p> <p>20 First, did I read that correctly?</p> <p>21 A You read it correctly.</p> <p>22 Q Do you have any basis to disagree with</p> <p>23 the statement by the Berge authors in this</p> <p>24 paragraph in the Discussion section?</p> <p>25 MS. PARFITT: Objection. Form.</p>	<p style="text-align: right;">Page 204</p> <p>1 BY MS. BRANSCOME:</p> <p>2 Q Based on the evidence that's available</p> <p>3 today, do you think there is strong enough</p> <p>4 epidemiological evidence to reach a conclusion</p> <p>5 about the association between talc -- genital talc</p> <p>6 use and other specific subtypes of ovarian cancer?</p> <p>7 A I think it becomes very fragile to draw</p> <p>8 inferences about other types. And in the absence</p> <p>9 of reliable evidence about other types, you know,</p> <p>10 especially those that have a smaller fraction of</p> <p>11 all ovarian cancers than serous type, I think the</p> <p>12 prudent thing to do is to consider that all</p> <p>13 ovarian cancers are affected the same way.</p> <p>14 The same way as with -- we do with lung</p> <p>15 cancer and smoking and histologic types of lung</p> <p>16 cancer. While there is some variability in the</p> <p>17 degree of relative risk between smoking and</p> <p>18 adenocarcinoma or squamous cell carcinoma or other</p> <p>19 types, small cell, large cell, for lung cancer,</p> <p>20 there is some variability in the degree of</p> <p>21 relative risk. Generally speaking, we say smoking</p> <p>22 causes cancer. Smoking causes all kinds of --</p> <p>23 causes lung cancer, all kinds of lung cancer.</p> <p>24 Q Are you qualified to evaluate the</p> <p>25 reasonableness of making an extrapolation from one</p>
<p style="text-align: right;">Page 203</p> <p>1 THE WITNESS: So there are a few</p> <p>2 statements in this paragraph, not just one.</p> <p>3 Do you want me to take them one by one?</p> <p>4 BY MS. BRANSCOME:</p> <p>5 Q Sure.</p> <p>6 A So whether "the positive association</p> <p>7 appears to be limited to the serous histological</p> <p>8 type," I have some problem with that. I -- I was</p> <p>9 looking in their publication for which studies --</p> <p>10 let me just see if I can -- which studies provided</p> <p>11 evidence on serous type, and I couldn't find that.</p> <p>12 In my -- in my analysis, the evidence</p> <p>13 that I was able to -- to compile that's in this</p> <p>14 addendum and meta-analyze showed an approximately</p> <p>15 similar meta-relative risk between serous and all</p> <p>16 ovarian cancers.</p> <p>17 So there is no -- I found no evidence</p> <p>18 that this -- that there was a particular peak of</p> <p>19 risk for serous types compared to other types.</p> <p>20 Q As you sit here today --</p> <p>21 MS. PARFITT: Are you done -- are you</p> <p>22 done with your -- is that --</p> <p>23 THE WITNESS: Yeah, for -- for that</p> <p>24 point on serous, yes.</p> <p>25 MS. PARFITT: Thank you.</p>	<p style="text-align: right;">Page 205</p> <p>1 subtype of ovarian cancer to all types of ovarian</p> <p>2 cancer in terms of what is biologically plausible?</p> <p>3 MS. PARFITT: Objection to form.</p> <p>4 THE WITNESS: My inferences would be</p> <p>5 based on the statistical and epidemiological</p> <p>6 evidence, and if there is biological,</p> <p>7 physiological evidence that would indicate that</p> <p>8 talcum powder is more likely to influence one type</p> <p>9 of ovarian cancer than another, I would be</p> <p>10 absolutely open to that interpretation.</p> <p>11 BY MS. BRANSCOME:</p> <p>12 Q All right. So moving along in that</p> <p>13 paragraph, are there --</p> <p>14 A Okay.</p> <p>15 Q -- any other sentences or portions of</p> <p>16 sentences with which you disagree?</p> <p>17 A So, the statement about case-control</p> <p>18 studies and whether the positive association is</p> <p>19 limited to case-control studies is -- is a bit</p> <p>20 contentious. And I understand very well that the</p> <p>21 evidence does not -- if we only had the cohort</p> <p>22 studies, if that's all the evidence that existed,</p> <p>23 it would be fair to say that that evidence does</p> <p>24 not argue for an association with -- between</p> <p>25 ovarian cancer and -- so I would -- I'm not -- I</p>

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<p style="text-align: right;">Page 206</p> <p>1 guess if I were writing this, I would qualify it</p> <p>2 somehow, and -- no, I think I'll just leave --</p> <p>3 leave that there, and you may have follow-up</p> <p>4 questions about the case-control/cohort</p> <p>5 comparison.</p> <p>6 Q Is there anything else in this paragraph</p> <p>7 in the Discussion section of Berge 2018 with which</p> <p>8 you disagree?</p> <p>9 MS. PARFITT: And can you refer him to</p> <p>10 the left-hand side of the discussion or the</p> <p>11 entire --</p> <p>12 MS. BRANSCOME: The second full</p> <p>13 paragraph in the Discussion section.</p> <p>14 MS. PARFITT: Which starts with "An</p> <p>15 important."</p> <p>16 THE WITNESS: So I -- I think what --</p> <p>17 BY MS. BRANSCOME:</p> <p>18 Q No, it begins with "This meta-analysis</p> <p>19 suggests."</p> <p>20 A Yeah. Yeah.</p> <p>21 So your question -- the question is</p> <p>22 about that sentence that says: "This estimate is</p> <p>23 somewhat lower. In our cumulative meta-analysis,</p> <p>24 we confirmed the trend towards lower," da, da, da,</p> <p>25 and that refers I guess specifically to Figure 4</p>	<p style="text-align: right;">Page 208</p> <p>1 misstates his testimony.</p> <p>2 THE WITNESS: It requires looking at</p> <p>3 which studies were included in each of these</p> <p>4 meta-analyses, and which results were chosen by</p> <p>5 the meta-analysis people who did these</p> <p>6 meta-analyses from each paper. The meta-analysis</p> <p>7 is somewhat sensitive to which studies are</p> <p>8 selected and -- so the same study might have been</p> <p>9 selected in the 2004 meta-analysis as in the 2016,</p> <p>10 but they chose -- they decided to choose an</p> <p>11 estimate from -- a result from that paper that</p> <p>12 they thought was the most reasonable one and</p> <p>13 that's different.</p> <p>14 So one would have to do side-by-side</p> <p>15 comparisons of which studies were included and</p> <p>16 which results before concluding that this is</p> <p>17 because of a downward trend. You also need to</p> <p>18 know when the data were collected.</p> <p>19 You know, I'm not sure if the -- if you</p> <p>20 are implying or if they are implying that -- you</p> <p>21 know, I -- a declining trend, if there is one, in</p> <p>22 meta-analyses -- these are the years of the</p> <p>23 meta-analysis, not the years that women were</p> <p>24 exposed. So there's no implication -- direct</p> <p>25 implication here that the risks to women are</p>
<p style="text-align: right;">Page 207</p> <p>1 on the following page.</p> <p>2 Certainly the confidence intervals, if</p> <p>3 you look at the confidence intervals of the</p> <p>4 meta-estimates in that Figure 4, from 1988 through</p> <p>5 2016, everything is embedded in everything. So</p> <p>6 from the point of view of statistical variability,</p> <p>7 it would be difficult to argue that there is a</p> <p>8 real statistical -- statistically meaningful</p> <p>9 difference between the trendline from -- through</p> <p>10 that whole period.</p> <p>11 There is a tendency by eye for a</p> <p>12 decline. I don't know in their paper, in the text</p> <p>13 whether they've characterized the decline with any</p> <p>14 regression coefficients or not. I don't remember.</p> <p>15 It seems to me like a rather weak trend to make a</p> <p>16 big point about. So I wouldn't disagree with</p> <p>17 the -- the point they're making, but I think it's</p> <p>18 not strongly supported. There isn't a strong</p> <p>19 trend downwards in this line, in this figure.</p> <p>20 Q So you would agree with the authors that</p> <p>21 there is a downward trend in the risk assessment</p> <p>22 over time as more evidence accumulated, but you</p> <p>23 might disagree with them about the strength of</p> <p>24 that trend. Is that fair?</p> <p>25 MS. PARFITT: Objection. Form,</p>	<p style="text-align: right;">Page 209</p> <p>1 declining over time. So if it's only the fact</p> <p>2 that meta-analyses carried out at different points</p> <p>3 in time showed very slightly different results, I</p> <p>4 don't find that a noteworthy observation. But...</p> <p>5 BY MS. BRANSCOME:</p> <p>6 Q And you agree that meta-analyses are</p> <p>7 sensitive to the judgments applied by the authors</p> <p>8 of those studies, correct?</p> <p>9 A Yes, they are, but to -- to a degree. I</p> <p>10 mean you have to weigh the -- the degree of</p> <p>11 bias -- or not the bias, but the -- the influence</p> <p>12 of particular decisions that you might make.</p> <p>13 I've done an analysis looking at what</p> <p>14 happens when you include or exclude studies, and</p> <p>15 you could exclude any study from my meta-analysis</p> <p>16 and you'd find the same result. So if any of</p> <p>17 these studies in my meta-analysis are completely</p> <p>18 wrong, if they were completely invented, if the</p> <p>19 women were never actually interviewed but the</p> <p>20 investigator just wrote a paper on a Sunday</p> <p>21 afternoon, and you're suspicious that this study</p> <p>22 was -- or badly -- whatever, if you take any one</p> <p>23 of these studies and take it out of the mix, it</p> <p>24 wouldn't affect the meta-relative risk.</p> <p>25 MS. BRANSCOME: Okay. I think this is a</p>

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<p>1 good place to take a break.</p> <p>2 MS. PARFITT: Very good. Thank you.</p> <p>3 THE VIDEOGRAPHER: We're going off the</p> <p>4 record at 5:07 p.m.</p> <p>5 (Recess.)</p> <p>6 THE VIDEOGRAPHER: This begins disc</p> <p>7 number 5 in the deposition of Jack Siemiatycki.</p> <p>8 We're going back on the record at 5:36 p.m.</p> <p>9 BY MS. BRANSCOME:</p> <p>10 Q One of the decisions that you had to</p> <p>11 make in conducting your meta-analysis was how to</p> <p>12 treat the Schildkraut 2006 study, correct?</p> <p>13 A 2000 --</p> <p>14 Q -- '16.</p> <p>15 A Thank you. Yes.</p> <p>16 Q Okay. For purposes of your</p> <p>17 meta-analysis, you divided Schildkraut 2016 into</p> <p>18 two sets of results, correct?</p> <p>19 A "Divided" isn't quite the right word.</p> <p>20 Q How would you describe it?</p> <p>21 A Because they're not separate, one</p> <p>22 includes the other.</p> <p>23 Q Okay.</p> <p>24 A So just the word "divided" -- I'm not</p> <p>25 sure what the right word is, but there were two</p>	<p>1 Q But if it's your preference to look at</p> <p>2 the paper now, it is tab 15.</p> <p>3 A It's in this binder, I think.</p> <p>4 MS. PARFITT: Here it is. Thank you.</p> <p>5 THE WITNESS: Thank you.</p> <p>6 Okay. The -- so one includes all --</p> <p>7 Schildkraut A includes all of the cases</p> <p>8 interviewed the whole period, and the</p> <p>9 Schildkraut B includes cases after 2014, but I'm</p> <p>10 not sure if it includes 2014. But...</p> <p>11 BY MS. BRANSCOME:</p> <p>12 Q Let me ask a clarification on that one,</p> <p>13 Dr. Siemiatycki.</p> <p>14 Schildkraut 2016-B shows results for</p> <p>15 individuals interviewed before 2014, correct?</p> <p>16 A I'm sorry, which one, B? Schildkraut B?</p> <p>17 Q Schildkraut 2016-B.</p> <p>18 A B.</p> <p>19 Q I believe you just stated after, so I --</p> <p>20 A I see. Okay.</p> <p>21 Q -- wanted to seek clarification there.</p> <p>22 A Okay. Yeah, I'm --</p> <p>23 Q If it's helpful --</p> <p>24 A It's late in the day. Let me --</p> <p>25 Q Sure. If it's helpful to you to</p>
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<p>1 sets of results reported, and I used both sets of</p> <p>2 results. One is embedded -- one set is embedded</p> <p>3 in the other.</p> <p>4 Q So correct me if I'm wrong, Schildkraut</p> <p>5 2016-A shows results from all subjects who were</p> <p>6 interviewed in the study from 2010 through 2015.</p> <p>7 Schildkraut 2016-B is a subset of that that</p> <p>8 includes the results for subjects who were</p> <p>9 interviewed before 2014, correct?</p> <p>10 MS. PARFITT: And, Counsel, if we could</p> <p>11 get Schildkraut in front of him, would that be all</p> <p>12 right?</p> <p>13 MS. BRANSCOME: Sure.</p> <p>14 BY MS. BRANSCOME:</p> <p>15 Q If you need to reference it --</p> <p>16 MS. PARFITT: Sure.</p> <p>17 BY MS. BRANSCOME:</p> <p>18 Q -- to answer my questions, certainly.</p> <p>19 A If you're going -- yes, I think you're</p> <p>20 right in what you said, but if you want me to look</p> <p>21 at specific results in the paper, maybe I should</p> <p>22 have it in front of me.</p> <p>23 Q I was going to direct you there when we</p> <p>24 got to those questions.</p> <p>25 A Okay.</p>	<p>1 reference in your report, you discuss your</p> <p>2 separation of Schildkraut on page 74, Note 6.</p> <p>3 A That's why I wanted my report in a small</p> <p>4 binder, rather than -- before 2014, yes.</p> <p>5 Q And the reason that you divided --</p> <p>6 separated the study into those two groups, one</p> <p>7 which is inclusive of the other, is to account for</p> <p>8 the possibility that publicity surrounding two</p> <p>9 class action lawsuits on talc and ovarian cancer</p> <p>10 in 2014 may have induced bias in the validity of</p> <p>11 reporting talc exposure; is that correct?</p> <p>12 A That's correct.</p> <p>13 Q Okay. But in your main meta-analysis</p> <p>14 you use Schildkraut A, which includes all subjects</p> <p>15 interviewed from 2010 to 2015, correct?</p> <p>16 A That's correct.</p> <p>17 Q When you substituted Schildkraut B,</p> <p>18 which included only subjects interviewed before</p> <p>19 2014, for Schildkraut A, all subjects interviewed</p> <p>20 from 2010 to 2015, the relative risk estimate for</p> <p>21 the meta-analysis goes down, correct?</p> <p>22 A Yes. From 1.28 to 1.27.</p> <p>23 MS. BRANSCOME: If we could mark</p> <p>24 Schildkraut as Exhibit 13.</p> <p>25 THE WITNESS: There's a label here</p>

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<p style="text-align: right;">Page 214</p> <p>1 already.</p> <p>2 MS. PARFITT: There is. I will go ahead</p> <p>3 and just -- you don't care -- there's a defense</p> <p>4 label of 1436. Can I go ahead and put the exhibit</p> <p>5 over top of it? Does it matter to you? Okay.</p> <p>6 This will be 13.</p> <p>7 (Exhibit No. 13 was marked for</p> <p>8 identification.)</p> <p>9 BY MS. BRANSCOME:</p> <p>10 Q All right. If you could,</p> <p>11 Dr. Siemiatycki, please turn to Table 2, which is</p> <p>12 on page 1414 of Exhibit 13.</p> <p>13 A I see it.</p> <p>14 Q Before doing that, can you just simply</p> <p>15 confirm that Exhibit 13 is in fact the Schildkraut</p> <p>16 study?</p> <p>17 A Yes, it is.</p> <p>18 Q And we see in Table 2 that there is a</p> <p>19 category for interview date less than 2014, and</p> <p>20 then another category for interview date greater</p> <p>21 than 2014. Correct?</p> <p>22 A Yes, I see that.</p> <p>23 Q All right. And we see that there are</p> <p>24 odds ratios for any genital use for both of these</p> <p>25 categories, correct?</p>	<p style="text-align: right;">Page 216</p> <p>1 A Yes, that's correct.</p> <p>2 Q All right. And the -- those are for the</p> <p>3 cases, meaning individuals who had been diagnosed</p> <p>4 or reported as diagnosed with ovarian cancer,</p> <p>5 correct?</p> <p>6 A Correct.</p> <p>7 Q And if you compare that against the</p> <p>8 controls, 34 percent is the reported number for</p> <p>9 women without ovarian cancer who reported any</p> <p>10 genital use of talcum powder that were interviewed</p> <p>11 before 2014, correct?</p> <p>12 A That's correct.</p> <p>13 Q And if we look at those same</p> <p>14 percentages for the individuals who were</p> <p>15 interviewed after 2014, the percentage of cases,</p> <p>16 meaning individuals who have been diagnosed or</p> <p>17 reported as diagnosed with ovarian cancer who</p> <p>18 claim to have used talc genitally at any point in</p> <p>19 time, goes up to 51.5 percent compared to a</p> <p>20 control of 34.4 percent, correct?</p> <p>21 A That's correct.</p> <p>22 Q All right. And so if we compare</p> <p>23 individuals interviewed before 2014 who have been</p> <p>24 diagnosed or reported as diagnosed with ovarian</p> <p>25 cancer to those individuals in the same category</p>
<p style="text-align: right;">Page 215</p> <p>1 A Yes, I see that.</p> <p>2 Q And the odds ratio for any genital use</p> <p>3 for individuals who were interviewed after 2014 is</p> <p>4 higher than the odds ratio for any genital use for</p> <p>5 those individuals who were interviewed before</p> <p>6 2014, correct?</p> <p>7 A That's correct.</p> <p>8 Q And it also shows the number of</p> <p>9 individuals that fell in those respective</p> <p>10 categories, correct?</p> <p>11 A Yes, correct.</p> <p>12 Q And so just simply looking at the</p> <p>13 reported data, the percentage of women with --</p> <p>14 with ovarian cancer who reported any genital use</p> <p>15 of talc who were interviewed before 2014 was</p> <p>16 36.5 percent, correct?</p> <p>17 A Can you run that by me again? Show me</p> <p>18 where the --</p> <p>19 Q Sure.</p> <p>20 A So interview date before 2014, any</p> <p>21 genital use, the percentage 36.5, number 128, is</p> <p>22 that what --</p> <p>23 Q Yes.</p> <p>24 A -- you are looking at? Okay.</p> <p>25 Q Was that correct?</p>	<p style="text-align: right;">Page 217</p> <p>1 who were interviewed after 2014, you see at least</p> <p>2 a 12 percent increase in those figures; is that</p> <p>3 correct?</p> <p>4 A 12 percent representing which -- which</p> <p>5 two numbers?</p> <p>6 Q Representing the difference between the</p> <p>7 cases who reported genital use of talcum powder --</p> <p>8 A The 36.5?</p> <p>9 Q -- as compared to the 51.5 percent.</p> <p>10 A So you -- you said it's 12 percent? I</p> <p>11 think it's like 14 percent.</p> <p>12 Q It is.</p> <p>13 A Okay.</p> <p>14 Q That is correct.</p> <p>15 But if you do the same comparison for</p> <p>16 the control group, you don't see a similar</p> <p>17 increase or a similar difference in the reporting</p> <p>18 percentages for individuals interviewed before</p> <p>19 2014 as after 2014, correct?</p> <p>20 A That's correct.</p> <p>21 Q Okay. Are those results compatible with</p> <p>22 the existence of recall bias for individuals</p> <p>23 interviewed after 2014?</p> <p>24 A I would say they are compatible with</p> <p>25 recall bias.</p>

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<p style="text-align: right;">Page 218</p> <p>1 Q Okay. Was litigation-related recall</p> <p>2 bias considered by IARC as a possible bias that</p> <p>3 could explain the association between perineal</p> <p>4 talc use and ovarian cancer?</p> <p>5 A In 2006?</p> <p>6 Q Correct.</p> <p>7 A I-- I can't remember verbatim the</p> <p>8 discussions, and I can't remember a discussion of</p> <p>9 litigation-related impact on response bias. I</p> <p>10 doubt if there would have been any at that time,</p> <p>11 but -- and I don't recall any discussion of it.</p> <p>12 Q And at least the Schildkraut authors are</p> <p>13 identifying 2014 as a significant year with</p> <p>14 respect to widespread knowledge of lawsuits</p> <p>15 involving talcum powder and a claim of ovarian</p> <p>16 cancer --</p> <p>17 MS. PARFITT: Objection. Form.</p> <p>18 BY MS. BRANSCOME:</p> <p>19 Q -- correct?</p> <p>20 MS. PARFITT: Objection. Form.</p> <p>21 THE WITNESS: I -- if you may, I think</p> <p>22 what they refer to is localized publicity, not</p> <p>23 widespread publicity.</p> <p>24 BY MS. BRANSCOME:</p> <p>25 Q If you can, can you refer me to the</p>	<p style="text-align: right;">Page 220</p> <p>1 column seems to suggest that data was collected</p> <p>2 from a number --</p> <p>3 A Oh.</p> <p>4 Q -- of different states across the United</p> <p>5 States, correct?</p> <p>6 A Correct. Correct.</p> <p>7 Q And so at least based on your review as</p> <p>8 you sit here today, the authors do not seem to</p> <p>9 have limited the potential effect of publicity of</p> <p>10 the class action lawsuits to a precise region,</p> <p>11 correct?</p> <p>12 A That seems to be the case.</p> <p>13 Q Okay.</p> <p>14 A Yes.</p> <p>15 Q And so your understanding or your</p> <p>16 testimony earlier that the publicity was only</p> <p>17 localized, you're not able to point me to anything</p> <p>18 in the article to support that, correct?</p> <p>19 A That's correct.</p> <p>20 Q And in fact, in the two portions of the</p> <p>21 Schildkraut article that discuss the publicity,</p> <p>22 there is no specific reference to it being limited</p> <p>23 to an area, correct?</p> <p>24 MS. PARFITT: Objection. Form.</p> <p>25 THE WITNESS: In the two -- sorry.</p>
<p style="text-align: right;">Page 219</p> <p>1 language in the paper that references that.</p> <p>2 A So I see a mention of it in the -- on</p> <p>3 page 1412, second column, last paragraph, about</p> <p>4 seven or eight lines from the bottom, the sentence</p> <p>5 beginning: "Two class action lawsuits were filed</p> <p>6 in 2014 concerning possible carcinogenic effects</p> <p>7 of body powder, which may have influenced recall."</p> <p>8 Now, there's a reference there, but the</p> <p>9 reference doesn't indicate where those class</p> <p>10 actions were. And now I'm going to look in the</p> <p>11 Discussion section to see if there's any</p> <p>12 indication. If anyone knows whether there is or</p> <p>13 if there is not -- I haven't looked for this</p> <p>14 specifically. I just have a vague memory of them</p> <p>15 referring to localized publicity, but... (peruses</p> <p>16 document.)</p> <p>17 Well, in my very quick scanning, I don't</p> <p>18 see reference to these being local. You people</p> <p>19 might know whether these two lawsuits that they</p> <p>20 refer to in the Reference section, whether they</p> <p>21 were local in this area. And this is North</p> <p>22 Carolina, is it?</p> <p>23 Q Well, so that's -- that's a question I</p> <p>24 have for you, Dr. Siemiatycki. On page 1412, the</p> <p>25 paragraph -- the last full paragraph on the second</p>	<p style="text-align: right;">Page 221</p> <p>1 BY MS. BRANSCOME:</p> <p>2 Q So there's one discussion of the</p> <p>3 potential public -- the potential effect of</p> <p>4 publicity, which is on page 1412.</p> <p>5 A Yeah.</p> <p>6 Q And then there is a second discussion of</p> <p>7 it on page 1416 --</p> <p>8 A Yes.</p> <p>9 Q -- in the Discussion section, and</p> <p>10 neither of those two sections talk about awareness</p> <p>11 of the class action lawsuits being limited to a</p> <p>12 specific geographic region, correct?</p> <p>13 A That's correct.</p> <p>14 Q In fact, the language that the authors</p> <p>15 use is a heightened awareness of the exposure as a</p> <p>16 result of two recent class action lawsuits, and</p> <p>17 they discuss just publicity, correct?</p> <p>18 A Yes, I think so.</p> <p>19 Q Okay. Are you relying --</p> <p>20 A In that second paragraph in the</p> <p>21 discussion, the authors seem to discount the --</p> <p>22 the recall bias hypothesis or to minimize it, and</p> <p>23 I -- I -- I don't support -- or the opposite of</p> <p>24 what they're saying. I just note that they don't</p> <p>25 seem to be enthusiastic about that hypothesis that</p>

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<p style="text-align: right;">Page 222</p> <p>1 it's strictly due to response bias.  2 But go ahead and --  3 Q The authors do recognize, though, that  4 there is a possibility of recall bias may have  5 caused some inflation of the odds ratios, correct?  6 A Yes.  7 MS. PARFITT: Wait, that's part --  8 that's part of the sentence. Objection.  9 THE WITNESS: Yeah. Yeah.  10 BY MS. BRANSCOME:  11 Q Are you relying on Penninkilampi 2018  12 for your opinions in this litigation?  13 A My opinions were informed before I knew  14 about that article.  15 Q Do you believe that the Penninkilampi  16 2018 study supports your conclusions in this  17 litigation?  18 A It's consistent with my conclusions. A  19 little bit like Berge, the fact that they didn't  20 pick up any studies that I hadn't -- that I had  21 not picked up reassures me that there was nothing  22 amiss in my search of the literature.  23 There were some differences in which  24 studies they included in their meta-analysis and  25 which data. I'm happy with the decisions -- the</p>	<p style="text-align: right;">Page 224</p> <p>1 impact on the bottom line result. Some errors  2 might have large effects, so it would depend what  3 the errors were.  4 But since his studies were mostly the  5 same as the ones I had used and the same ones that  6 Berge had used, and since the results that he had  7 taken out of those studies were mostly the same  8 ones I had taken out and that Berge had taken out,  9 I fully expected his bottom line meta-analysis to  10 produce the same results.  11 BY MS. BRANSCOME:  12 Q The Penninkilampi study does not  13 consider or include the Gates 2010 cohort study,  14 correct?  15 A Correct.  16 Q Do you think Gates 2010 - and if you  17 would prefer to refer to Penninkilampi, it is  18 tab 20.  19 A Yeah.  20 Q In your opinion, is --  21 MS. PARFITT: I have a clean one right  22 here with the -- if we use two books, we can do it  23 to save time, but --  24 THE WITNESS: Sorry?  25 MS. PARFITT: Do you want that?</p>
<p style="text-align: right;">Page 223</p> <p>1 judgments I had made about it. So there are some  2 minor variations there. But essentially they  3 found the same thing that I found, because we're  4 all working with the same data.  5 Q Okay. Did you do an independent  6 verification that the data Penninkilampi reports  7 in his article is indeed accurate?  8 MS. PARFITT: Objection. Form.  9 THE WITNESS: By the data, you mean the  10 results that he put into his meta-analysis?  11 BY MS. BRANSCOME:  12 Q For example, did you look at the  13 reported data in the tables in the Penninkilampi  14 article and compare it to the underlying studies  15 to see if they matched?  16 A I don't recall doing that comparison.  17 I'm not sure why I would want to.  18 Q If there were errors in the reporting of  19 any of the odds ratios or confidence intervals in  20 the Penninkilampi 2018 paper, would that call into  21 reliability the meta-analysis, in your opinion?  22 MS. PARFITT: Objection. Form.  23 THE WITNESS: It depends on the nature  24 of the errors. If there was one decimal point  25 typo sort of thing, it would have absolutely no</p>	<p style="text-align: right;">Page 225</p> <p>1 THE WITNESS: No. I'm actually looking  2 for my copy of the Gates 2010.  3 You're going to ask me about his use  4 of -- Gates 2010?  5 BY MS. BRANSCOME:  6 Q I was simply just going to ask you, is  7 Gates 2010 a significant study, in your opinion,  8 to leave out of a meta-analysis on this topic?  9 MS. PARFITT: Objection. Form.  10 THE WITNESS: A significant study.  11 It -- in my view there are flaws with that study,  12 but there are flaws with many epidemiologic  13 studies. It's not -- that's not a reason to  14 exclude them. I would include it but take note of  15 the flaws, including the fact that their reference  16 category for their odds ratios for their relative  17 risk estimates was not an unexposed group, but it  18 was a group that combined women who had never used  19 talc with women who had used it occasionally.  20 BY MS. BRANSCOME:  21 Q Are there any other errors in the Gates  22 2010 study? And if you'd like to refer to it --  23 MS. PARFITT: Thank you.  24 THE WITNESS: Okay. Let me find my copy  25 of -- yeah, here we are -- Gates 2010.</p>

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<p style="text-align: right;">Page 226</p> <p>1 Well, yes, there are some flaws with it,  2 but they're related to the fact that this builds  3 on the Nurses' Health Study, which is a good and  4 well deservedly recognized, good prospective  5 cohort study which focused on many factors in  6 women's lives, including predominantly nutritional  7 reproductive, hormonal factors, and all kinds of  8 diseases, all heart disease, diabetes, et cetera,  9 et cetera. There have been hundreds and hundreds  10 of publications that have come out of it.  11 Their collect- -- the collection of talc  12 information in the Nurses' Health Study was very  13 weak. The questionnaire was conducted in 1982.  14 It was part of a biannual follow-up mailed  15 questionnaire. The question itself and the  16 structure of the question itself I find very weak  17 from the point of view of designing questions for  18 questionnaires. I mean, I -- I could read it into  19 the record, but it's in the -- it's in the -- it's  20 quoted in the Gertig paper, and it's actually --  21 I've seen that page of the questionnaire, and  22 it's -- I find it ambiguous as to how women would  23 answer that question.  24 And it's only one question for that  25 point in time. There was never any follow-up. So</p>	<p style="text-align: right;">Page 228</p> <p>1 authors of the Penninkilampi 2018 publication?  2 A No, I don't.  3 Q Do you know or have any information  4 about the source or sources of funding for the  5 Penninkilampi article?  6 A No, I don't, no. I -- I would add,  7 though, that the inclusion or exclusion of Gates  8 2010 probably didn't affect the bottom line result  9 of their meta-analysis by more than 0.01 decimal  10 point of the odds ratio.  11 Q But did they publish any type of  12 sensitivity analysis that would let you  13 specifically draw that conclusion?  14 A Well, I -- I have done one myself where  15 I dropped each of the studies in order to see what  16 would be the impact if that study had been  17 dropped. And there's hardly -- no study has more  18 than a 1 decimal -- you know, 0.01 decimal point  19 on the odds ratio.  20 So we could argue about the merits of  21 any of these studies or demerits, but the impact  22 of including them or excluding an individual study  23 is pretty minimal.  24 Q Shushan 1996 is one of the studies you  25 did not include in your main meta-analysis,</p>
<p style="text-align: right;">Page 227</p> <p>1 between 1982 and 2007 or so, when the follow-up of  2 the -- for the Gates analysis ended, they had no  3 idea whether women were exposed -- whether women  4 who had been exposed in 1982 were in exactly the  5 same exposure category in 1990, in 2000, in 2005  6 and so on. They made the assumption that women's  7 exposure status was stable for 25 years. And so  8 that's a major weakness of the analysis of talc  9 and ovarian cancer in -- from this study.  10 BY MS. BRANSCOME:  11 Q So in your view, was it proper for the  12 Penninkilampi authors to leave Gates 2010 out of  13 their meta-analysis?  14 A That's not what I said. That's not what  15 I said.  16 I -- I think to go down the road of  17 making value judgments about each of these studies  18 and including them or not including them would end  19 up in the need for many days of deposition and  20 cross-examination, because each of those -- any  21 decision about any study can be argued umpteen  22 ways. And that's why I took the decision early on  23 not to make exclusions based on my judgment of the  24 quality of the study.  25 Q Do you personally know any of the</p>	<p style="text-align: right;">Page 229</p> <p>1 correct?  2 A Correct.  3 Q And you reported that you did not  4 include it because the report was quite cryptic  5 regarding the data collection and the talc  6 exposure variable, correct?  7 A That's correct.  8 Q What did you mean by the report was  9 quite cryptic regarding the data collection?  10 A So I have to take a couple of minutes to  11 review that -- to look at that paper to answer  12 your question.  13 Well, so the first thing that strikes  14 me -- and I haven't read the description of how  15 they collected the data. The first thing that  16 strikes me is they have a table, Table 2 on  17 page 15, with some information about these various  18 variables, including talc exposure. And the two  19 categories of talc exposure that they describe in  20 this table, one is called "Never - seldom," and  21 the other one is called "Moderate - a lot." I  22 don't know what that means. So that's one  23 element -- how they present it and how they  24 analyze the data.  25 But I think actually how they collected</p>

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<p style="text-align: right;">Page 230</p> <p>1 the data also led me to describe the -- the</p> <p>2 information on exposure as being cryptic.</p> <p>3 Q Okay. Are you familiar with the 2018</p> <p>4 paper by Mohamed Taher and others entitled "The</p> <p>5 systematic review and meta-analysis: The</p> <p>6 association between perineal use of talc and risk</p> <p>7 of ovarian cancer"?</p> <p>8 A Yes, I am.</p> <p>9 Q Okay. Have you read the Taher 2018</p> <p>10 manuscript?</p> <p>11 A Yes. I haven't read all the appendices,</p> <p>12 but I basically read enough that I know what's in</p> <p>13 it.</p> <p>14 Q Did you have access to the Taher 2018</p> <p>15 article before it was published?</p> <p>16 A I don't think it's been published.</p> <p>17 Q How did you get access to the Taher</p> <p>18 manuscript and the appendices?</p> <p>19 A I heard about -- I first heard about the</p> <p>20 Canadian Department of Health advisory, or</p> <p>21 whatever the word is, about talc and ovarian</p> <p>22 cancer in the public media. And I -- I think in</p> <p>23 the news report that I saw, there was a reference</p> <p>24 to Taher -- the Taher paper. That's how I first</p> <p>25 learned about something by them.</p>	<p style="text-align: right;">Page 232</p> <p>1 Q Which author do you know?</p> <p>2 A Daniel Krewski.</p> <p>3 Q You have published many papers with, is</p> <p>4 it, Dr. Krewski?</p> <p>5 A Yes.</p> <p>6 Q Is that correct?</p> <p>7 A Yes. Yes, it is.</p> <p>8 Q How many papers have you published with</p> <p>9 him?</p> <p>10 A I'll look at my CV and count.</p> <p>11 Q Would it be fair to say over 20?</p> <p>12 A Oh, I would be surprised if it was that</p> <p>13 high. But if you've counted, I won't contradict</p> <p>14 what you -- what you say.</p> <p>15 Q Let's do it this way: Would all of the</p> <p>16 papers that you have coauthored with Dr. Krewski</p> <p>17 be listed on your CV?</p> <p>18 A Yes.</p> <p>19 Q Have you discussed your opinion on talc</p> <p>20 and ovary -- ovarian cancer with Dr. Krewski?</p> <p>21 A No.</p> <p>22 Q Have you discussed your opinion on talc</p> <p>23 and ovarian cancer with any of the authors of the</p> <p>24 Taher manuscript?</p> <p>25 A No.</p>
<p style="text-align: right;">Page 231</p> <p>1 And I wrote to Ms. Parfitt -- I sent a</p> <p>2 message to Ms. Parfitt asking her if she knows</p> <p>3 anything about this and has that information, and</p> <p>4 she wrote back, I think, and said, No, I thought</p> <p>5 you might have -- know something about it and have</p> <p>6 information.</p> <p>7 MS. PARFITT: And -- and,</p> <p>8 Dr. Siemiatycki, you're not to discuss --</p> <p>9 THE WITNESS: Okay.</p> <p>10 MS. PARFITT: -- discuss our</p> <p>11 communications.</p> <p>12 THE WITNESS: Okay.</p> <p>13 Subsequently, Ms. Parfitt sent me the</p> <p>14 Taher paper.</p> <p>15 BY MS. BRANSCOME:</p> <p>16 Q And when -- when did you first request</p> <p>17 the Taher paper and appendices from Ms. Parfitt?</p> <p>18 A I think in December 2018.</p> <p>19 Q When were you provided with the Taher</p> <p>20 manuscript and the appendices and supplemental</p> <p>21 tables?</p> <p>22 A Within a few days after that.</p> <p>23 Q Do you know personally any of the</p> <p>24 authors on the Taher manuscript?</p> <p>25 A I know one of them.</p>	<p style="text-align: right;">Page 233</p> <p>1 Q Have you spoken to or otherwise</p> <p>2 communicated with Dr. Krewski about your</p> <p>3 involvement as an expert in this litigation?</p> <p>4 A No, I haven't.</p> <p>5 Q Do you know if the Taher manuscript has</p> <p>6 been accepted for publication?</p> <p>7 A I don't know if it's been submitted for</p> <p>8 publication.</p> <p>9 Q Do you know anything about the source or</p> <p>10 sources of funding for the Taher 2018 manuscript?</p> <p>11 A I don't have any privileged information</p> <p>12 about that, but I seem to recall in the manuscript</p> <p>13 they're saying something about funding from Health</p> <p>14 Canada.</p> <p>15 Q Is it fair to say that your knowledge</p> <p>16 with respect to the source or sources of funding</p> <p>17 of the Taher manuscript is limited to what is</p> <p>18 written in the manuscript itself?</p> <p>19 A Yes.</p> <p>20 Q Did you attend the National Cancer</p> <p>21 Institute directors meeting held in Lyon, France,</p> <p>22 on July 11th through 13th, 2018?</p> <p>23 A No, I did not.</p> <p>24 Q Now, the Taher 2018 manuscript contains</p> <p>25 a meta-analysis, correct?</p>

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<p>1 A Correct.</p> <p>2 Q And Taher 2018 calculates an overall</p> <p>3 relative risk of 1.28, correct?</p> <p>4 MS. PARFITT: If we could just get that</p> <p>5 in front of him.</p> <p>6 MS. BRANSCOME: Oh, of course.</p> <p>7 MS. PARFITT: Do you have your copy? I</p> <p>8 appreciate that.</p> <p>9 MS. BRANSCOME: It is tab --</p> <p>10 MS. PARFITT: I think he may have it as</p> <p>11 well and --</p> <p>12 THE WITNESS: I have it --</p> <p>13 MS. PARFITT: Make that a little easier</p> <p>14 and more quicker.</p> <p>15 MR. TISI: Do you want to mark it?</p> <p>16 MS. BRANSCOME: We have already marked</p> <p>17 Dr. Siemiatycki's binder.</p> <p>18 MR. TISI: Okay. We can --</p> <p>19 MS. BRANSCOME: I believe that contains</p> <p>20 the -- the manuscript and the exhibits.</p> <p>21 MS. PARFITT: And that is binder 6,</p> <p>22 Exhibit 6.</p> <p>23 MR. TISI: You said binder, going with</p> <p>24 his or the one --</p> <p>25 MS. PARFITT: Exhibit 6.</p>	<p>1 one in the binders you gave him? That may help.</p> <p>2 MS. BRANSCOME: It's tab 31.</p> <p>3 MS. PARFITT: Thank you.</p> <p>4 Tab 31. I appreciate that.</p> <p>5 No, you can keep yours.</p> <p>6 THE WITNESS: Okay.</p> <p>7 MS. PARFITT: There you go, just for the</p> <p>8 record. Okay. Thank you.</p> <p>9 BY MS. BRANSCOME:</p> <p>10 Q So my question to you, Dr. Siemiatycki,</p> <p>11 is Taher 2018 calculates an overall relative risk</p> <p>12 of 1.28. Is that correct?</p> <p>13 A That's what it says in the abstract,</p> <p>14 yes.</p> <p>15 Q And the confidence interval that they</p> <p>16 report is 1.2 to 1.37, correct?</p> <p>17 A Yes.</p> <p>18 Q So the overall relative risk as well as</p> <p>19 the confidence interval reported in the Taher 2018</p> <p>20 paper is very similar to the overall relative risk</p> <p>21 and confidence interval that you report in your</p> <p>22 analysis for the MDL, correct?</p> <p>23 A That's correct. Which is not</p> <p>24 surprising.</p> <p>25 Q And if you could turn to page 49 of the</p>
Page 235	Page 237
<p>1 MS. BRANSCOME: Exhibit 6 is</p> <p>2 Dr. Siemiatycki's copy of the Taher manuscript</p> <p>3 with the appendices and supplemental tables.</p> <p>4 BY MS. BRANSCOME:</p> <p>5 Q Is that correct?</p> <p>6 A That's correct.</p> <p>7 MR. TISI: And that's in his binder,</p> <p>8 Exhibit 6.</p> <p>9 THE WITNESS: I don't -- I didn't bring</p> <p>10 the supplemental tables and appendices with me.</p> <p>11 BY MS. BRANSCOME:</p> <p>12 Q Okay. So could you just describe for</p> <p>13 the record the contents of Exhibit 6. It is</p> <p>14 marked, but just so that I can follow along.</p> <p>15 A This document?</p> <p>16 MR. TISI: No, the whole thing.</p> <p>17 THE WITNESS: Oh, the whole -- the whole</p> <p>18 thing. It contains various meta-analyses, so the</p> <p>19 Berge, Penninkilampi, Huncharek, just the meta --</p> <p>20 main meta-analyses that have been done.</p> <p>21 MS. PARFITT: And, Counsel --</p> <p>22 THE WITNESS: Langseth.</p> <p>23 MS. PARFITT: Right.</p> <p>24 -- in light of the fact he has his in</p> <p>25 front of him, Exhibit 6, is there a corresponding</p>	<p>1 Taher paper. You see the Conclusion section?</p> <p>2 A Yes.</p> <p>3 Q The authors of the Taher paper state in</p> <p>4 the Conclusion section: "Consistent with previous</p> <p>5 evaluations, the IARC in 2010 and subsequent</p> <p>6 evaluations by individual investigators, the</p> <p>7 present comprehensive evaluation of all currently</p> <p>8 available relevant data indicates that perineal</p> <p>9 exposure to talc powder is a possible cause of</p> <p>10 ovarian cancer in humans."</p> <p>11 First, did I read that correctly?</p> <p>12 A Yes.</p> <p>13 Q Okay. Do you agree first that the Taher</p> <p>14 2018 paper represents a comprehensive evaluation</p> <p>15 of all currently available relevant data?</p> <p>16 A Yes. I haven't -- I haven't done the</p> <p>17 same comparison between which studies and which</p> <p>18 data points from each study they used compared to</p> <p>19 the ones that I've used. I did that for the Berge</p> <p>20 and for the Penninkilampi, comparing theirs with</p> <p>21 mine. I haven't done that for theirs. So I -- I</p> <p>22 assume that they used basically the same studies</p> <p>23 and the same results from each study.</p> <p>24 But, you know, to answer -- I'm quite</p> <p>25 sure that they did this comprehensive evaluation</p>

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<p style="text-align: right;">Page 238</p> <p>1 of all currently available, but to answer that</p> <p>2 strictly, I would want to do a comparison of the</p> <p>3 two. But I'm willing to accept.</p> <p>4 Q Okay. And we see here even in this</p> <p>5 sentence that we just read that there's a</p> <p>6 reference there to the IARC publication in 2010.</p> <p>7 We've already discussed that, correct?</p> <p>8 A Yes.</p> <p>9 Q And then there's a reference to</p> <p>10 subsequent evaluations by individual</p> <p>11 investigators, and there's a reference there to</p> <p>12 articles or studies 3, 5 and 69. Do you see that?</p> <p>13 A I see that.</p> <p>14 Q And looking at the reference pages,</p> <p>15 beginning on page 51, would you agree that</p> <p>16 reference 3 is the Berge analysis, this citation</p> <p>17 is to 2017, correct?</p> <p>18 A Correct.</p> <p>19 Q Five is Penninkilampi, correct?</p> <p>20 A Correct.</p> <p>21 Q And the last reference, which is 69, is</p> <p>22 to the Terry meta-analysis. Do you see that?</p> <p>23 A Terry is not a meta-analysis. It's a</p> <p>24 pooled analysis. But I see that, yes.</p> <p>25 Q Okay. So the reference in the Taher</p>	<p style="text-align: right;">Page 240</p> <p>1 Q And that they examined those studies</p> <p>2 closely enough at least to reach the conclusion in</p> <p>3 their own mind that their results were consistent</p> <p>4 with those findings.</p> <p>5 MS. PARFITT: Objection. Form.</p> <p>6 THE WITNESS: Yes.</p> <p>7 BY MS. BRANSCOME:</p> <p>8 Q Are there any scientific publications</p> <p>9 that were available to you during your review in</p> <p>10 connection with your formation of opinions in the</p> <p>11 MDL that were not available to the authors of the</p> <p>12 Taher manuscript?</p> <p>13 MS. PARFITT: Objection. Form.</p> <p>14 THE WITNESS: So are you talking about</p> <p>15 the meta-analysis that -- are you talking about</p> <p>16 studies that went into meta-analysis or are you</p> <p>17 talking about the, you know, 200 or 300 references</p> <p>18 in my bibliography?</p> <p>19 BY MS. BRANSCOME:</p> <p>20 Q Fair enough.</p> <p>21 Are there any studies that you included</p> <p>22 in your meta-analysis that, at least to your</p> <p>23 knowledge, were available to you and were not</p> <p>24 available to the Taher authors?</p> <p>25 MS. PARFITT: Objection. Form.</p>
<p style="text-align: right;">Page 239</p> <p>1 manuscript to reference 69 is to the Terry pooled</p> <p>2 analysis from 2013, correct?</p> <p>3 A Correct.</p> <p>4 Q And so you agree that at least the Taher</p> <p>5 authors considered the Berge, Penninkilampi, and</p> <p>6 Terry studies.</p> <p>7 MS. PARFITT: Objection. Form.</p> <p>8 THE WITNESS: Were aware of. I'm not</p> <p>9 sure what you mean by considered. They -- they</p> <p>10 referenced it. I don't know that they considered</p> <p>11 it in their -- I don't imagine that there's any</p> <p>12 place in their statistical analysis where they</p> <p>13 introduced data from any of those papers. They're</p> <p>14 just acknowledging that those other meta-analyses</p> <p>15 found the same thing that they found.</p> <p>16 BY MS. BRANSCOME:</p> <p>17 Q So perhaps we have a different</p> <p>18 understanding of the word "considered."</p> <p>19 A Okay.</p> <p>20 Q Would you agree that a fair reading of</p> <p>21 their Conclusion paragraph would indicate that the</p> <p>22 Taher authors were first aware --</p> <p>23 A Yes.</p> <p>24 Q -- of Terry, Berge and Penninkilampi?</p> <p>25 A Yes.</p>	<p style="text-align: right;">Page 241</p> <p>1 THE WITNESS: Oh, they would have been</p> <p>2 available because all of my -- the studies I used</p> <p>3 are in publicly available literature, and I'm sure</p> <p>4 they were available.</p> <p>5 BY MS. BRANSCOME:</p> <p>6 Q Okay. Do you have any criticisms of the</p> <p>7 Taher 2018 meta-analysis?</p> <p>8 A I haven't evaluated it closely enough</p> <p>9 to -- to formulate criticisms or praise or --</p> <p>10 Q Now, you testified earlier that there</p> <p>11 was a flurry of activity in December surrounding</p> <p>12 the information from Health Canada and the Taher</p> <p>13 manuscript.</p> <p>14 Is there a reason why you have not</p> <p>15 reviewed the Taher manuscript in detail and formed</p> <p>16 an opinion about whether you agree or disagree</p> <p>17 with its analysis?</p> <p>18 MS. PARFITT: Objection. Fully</p> <p>19 misstates his testimony. Form.</p> <p>20 THE WITNESS: I -- I thought that it</p> <p>21 would have absolutely no bearing on the results</p> <p>22 and the opinions that I expressed in my report,</p> <p>23 plus I didn't have time to do such a review. And</p> <p>24 so the combination of those two things made it a</p> <p>25 simple decision not to devote precious time and</p>

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<p style="text-align: right;">Page 242</p> <p>1 effort to a -- a futile activity.</p> <p>2 I'm not uninterested in what they did or</p> <p>3 what they found, but I can predict pretty quickly</p> <p>4 what they did and what they found, and I -- I know</p> <p>5 the studies that they reviewed, that they had</p> <p>6 access to. There's nothing that they would find</p> <p>7 that I wouldn't be able to predict.</p> <p>8 MS. BRANSCOME: Okay.</p> <p>9 Now may be a good time to take a break.</p> <p>10 MS. PARFITT: Sure. Okay. Very good.</p> <p>11 MS. BRANSCOME: Let's go off the record.</p> <p>12 MR. TISI: Are we switching examiners</p> <p>13 too?</p> <p>14 MS. BRANSCOME: I don't know. That's</p> <p>15 why --</p> <p>16 MS. PARFITT: Oh, fair enough. Fair</p> <p>17 enough.</p> <p>18 THE VIDEOGRAPHER: We're going off the</p> <p>19 record at 6:22 p.m.</p> <p>20 (Recess.)</p> <p>21 THE VIDEOGRAPHER: This begins disc</p> <p>22 number 5 in the deposition of Jack Siemiatycki.</p> <p>23 We are going back on the record at 6:40 p.m.</p> <p>24 BY MS. BRANSCOME:</p> <p>25 Q So, Dr. Siemiatycki, if you could open</p>	<p style="text-align: right;">Page 244</p> <p>1 criteria, but which are not criteria and shouldn't</p> <p>2 be called criteria.</p> <p>3 Q Understanding that you have specific</p> <p>4 views about the appropriateness and application of</p> <p>5 it, you are at least familiar with what is</p> <p>6 sometimes referred to as a Bradford Hill analysis</p> <p>7 or the Hill criteria, correct?</p> <p>8 A I don't -- again, the phrase "Bradford</p> <p>9 Hill analysis" doesn't mean anything. I don't</p> <p>10 think you would find that phrase in any</p> <p>11 epidemiology or statistics textbook.</p> <p>12 Q Are you saying as you sit here today,</p> <p>13 Dr. Siemiatycki, you've never heard of the Hill</p> <p>14 criteria?</p> <p>15 MS. PARFITT: Objection. Misstates his</p> <p>16 testimony.</p> <p>17 THE WITNESS: No, I've heard of it, and</p> <p>18 I'm saying that it's a misnomer. And so I'd</p> <p>19 prefer if the correct terminology is used when --</p> <p>20 if you're asking me questions about it.</p> <p>21 BY MS. BRANSCOME:</p> <p>22 Q The authors of the Taher manuscript use</p> <p>23 the term "Hill criteria" --</p> <p>24 A Yes.</p> <p>25 Q -- in their Table 2, correct?</p>
<p style="text-align: right;">Page 243</p> <p>1 back up to the Taher manuscript again. I believe</p> <p>2 it's in your binder that's been marked as</p> <p>3 Exhibit 6, and specifically, if you could go to</p> <p>4 Figure 3 on page 39.</p> <p>5 Have you looked at Figure 3 from the</p> <p>6 Taher 2018 manuscript before now?</p> <p>7 A No, I haven't. I may have glanced at it</p> <p>8 going through it, but I haven't examined it.</p> <p>9 Q Did you look at anything in the Taher</p> <p>10 manuscript to support your opinion that there is</p> <p>11 at least evidence compatible with the dose-</p> <p>12 response relationship between perineal use of talc</p> <p>13 and ovarian cancer?</p> <p>14 A I didn't look for that in this paper.</p> <p>15 Q If you could look at page 25 of the</p> <p>16 Taher paper.</p> <p>17 Do you see here that the authors of the</p> <p>18 Taher manuscript describe the summary of evidence</p> <p>19 for each of the Hill criteria of causation? Do</p> <p>20 you see that?</p> <p>21 A I see that.</p> <p>22 Q And you are familiar with the Hill --</p> <p>23 the Hill criteria of causation, correct?</p> <p>24 A I'm familiar with what they call the</p> <p>25 Hill criteria and what some people call the Hill</p>	<p style="text-align: right;">Page 245</p> <p>1 A Yes, they do.</p> <p>2 Q And there is a discussion under the --</p> <p>3 what they refer to as a criterion for strength of</p> <p>4 association, correct?</p> <p>5 A Yes.</p> <p>6 Q And the Taher authors report that out of</p> <p>7 30 epidemiological studies --</p> <p>8 it's late in the day -- six reported positive</p> <p>9 association of statistical significance with a</p> <p>10 risk value, relative risk or odds ratio of 1.5 or</p> <p>11 greater.</p> <p>12 Is that description of the</p> <p>13 epidemiological studies accurate?</p> <p>14 A I don't know. I haven't counted. I</p> <p>15 haven't done that kind of counting, which is</p> <p>16 irrelevant and wrong from a statistical and</p> <p>17 epidemiological point of view to do it. So I</p> <p>18 haven't done it, and I can't confirm that there</p> <p>19 are six that report odds ratios greater than 1.5.</p> <p>20 I could do that if you want me to. I can look</p> <p>21 through studies and see.</p> <p>22 But there's no -- there's no scientific</p> <p>23 purpose in doing that. It's a meaningless piece</p> <p>24 of information.</p> <p>25 Q Would you criticize the Taher authors</p>

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<p style="text-align: right;">Page 246</p> <p>1 for their discussion of the Hill criteria?</p> <p>2 A Yes.</p> <p>3 Q And you have explained your criticisms</p> <p>4 about the Hill criteria in both your trial</p> <p>5 testimony and in your prior deposition testimony,</p> <p>6 correct?</p> <p>7 A I can't remember the details, but I -- I</p> <p>8 guess if I was asked about it, I explained what I</p> <p>9 thought about it.</p> <p>10 My criticism -- I'm not sure what you</p> <p>11 mean by my criticisms of the term or of the</p> <p>12 concepts that the paper that Hill wrote in 1965,</p> <p>13 the ways -- the umpteen different ways that other</p> <p>14 people have interpreted it. What -- what are you</p> <p>15 referring to when you say I criticized? What did</p> <p>16 I criticize?</p> <p>17 Q Have your views with respect to the use</p> <p>18 and application of the so-called Hill criterion</p> <p>19 changed since you testified in the Echeverria</p> <p>20 trial?</p> <p>21 MS. PARFITT: Objection. Form.</p> <p>22 THE WITNESS: They -- they haven't</p> <p>23 changed in 40 years.</p> <p>24 BY MS. BRANSCOME:</p> <p>25 Q Okay. Thank you.</p>	<p style="text-align: right;">Page 248</p> <p>1 Q 48 in my binder, but I don't know if you</p> <p>2 have a copy in yours, which might be faster.</p> <p>3 A No, this -- I have the -- I have the</p> <p>4 current Berge paper. So...</p> <p>5 Q At page 9, I believe.</p> <p>6 Well, that's confusing to say page 9.</p> <p>7 A Okay, I see that.</p> <p>8 Q Okay. In reviewing the conclusion that</p> <p>9 the Berge authors reached, would -- did the Berge</p> <p>10 authors conclude that genital talc use was a</p> <p>11 probable cause of ovarian cancer?</p> <p>12 A They did not indicate that they</p> <p>13 concluded that.</p> <p>14 Q Okay. And same for the Penninkilampi</p> <p>15 study.</p> <p>16 MS. PARFITT: Had you finished? Had you</p> <p>17 finished your statement.</p> <p>18 THE WITNESS: Not quite.</p> <p>19 There's a difference between the</p> <p>20 findings of a study and the inferences that are</p> <p>21 drawn from those findings. So the findings of</p> <p>22 their meta-analyses and the findings of the</p> <p>23 Penninkilampi meta-analyses and findings of the</p> <p>24 Taher meta-analyses are the same as my findings.</p> <p>25 All four agree on the findings.</p>
<p style="text-align: right;">Page 247</p> <p>1 Now, we have just discussed three</p> <p>2 meta-analyses: The Berge meta-analyses, the</p> <p>3 Penninkilampi meta-analyses, and the Taher</p> <p>4 meta-analyses. Correct?</p> <p>5 A Yes.</p> <p>6 Q Would you agree that none of the authors</p> <p>7 of those three meta-analyses concluded that talc</p> <p>8 was a probable cause of ovarian cancer?</p> <p>9 MS. PARFITT: Objection. Form.</p> <p>10 THE WITNESS: The purpose of those</p> <p>11 meta-analyses was to estimate the meta-estimate of</p> <p>12 relative risk. In terms of the conclusion about</p> <p>13 probable causation, I think they all commented on</p> <p>14 it in their discussions.</p> <p>15 And can you specify your question again,</p> <p>16 whether they concluded that it was a probable</p> <p>17 cause?</p> <p>18 BY MS. BRANSCOME:</p> <p>19 Q Correct.</p> <p>20 A I'd have to look at the way they -- what</p> <p>21 conclusions they drew, I'd have to look at that.</p> <p>22 Q Okay. If we could look at the Berge</p> <p>23 paper, which should be tab --</p> <p>24 A Let me see, I think I have the latest</p> <p>25 issue of the Berge paper.</p>	<p style="text-align: right;">Page 249</p> <p>1 Interpreting and making inferences is a</p> <p>2 whole other bailiwick, a whole other activity, and</p> <p>3 they don't -- didn't conclude in this section that</p> <p>4 it's a probable cause. From the same evidence, I</p> <p>5 do conclude that it's a probable cause.</p> <p>6 BY MS. BRANSCOME:</p> <p>7 Q Right. And the same is true for the</p> <p>8 Penninkilampi officer -- authors, correct?</p> <p>9 A Sorry, I have to go through it.</p> <p>10 (Peruses document.)</p> <p>11 I don't really agree with your</p> <p>12 statement. I don't think they conclude that it's</p> <p>13 probable or not probable. I don't see -- can you</p> <p>14 point me to a statement that would imply that it's</p> <p>15 not -- that they think it's not probable?</p> <p>16 Q Do the authors of the Penninkilampi</p> <p>17 paper use the phrase, quote, suggestive of a</p> <p>18 causal association, in the Conclusion section?</p> <p>19 A Yes, they do.</p> <p>20 Q Okay. Would you say that "suggestive of</p> <p>21 a causal association" is equivalent to probable</p> <p>22 causation?</p> <p>23 MS. PARFITT: Objection. Form.</p> <p>24 THE WITNESS: That's a semantic</p> <p>25 question, and how different people and different</p>

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<p style="text-align: right;">Page 250</p> <p>1 cultures -- and I think these people are  2 Australians -- how Australians tend to use the  3 word "suggestive." I -- I don't read this in a  4 way as to suggest that they don't think it's  5 probable.  6 BY MS. BRANSCOME:  7 Q So you don't know from reviewing the  8 Conclusion section one way or the other whether  9 the Penninkilampi authors view perineal use of  10 talc as a probable cause of ovarian cancer.  11 MS. PARFITT: Objection. Form,  12 misstates his testimony.  13 Just answer the question.  14 THE WITNESS: Yes, that's right, I -- I  15 don't.  16 BY MS. BRANSCOME:  17 Q Okay. And as we just looked at in the  18 Taher manuscript, the Taher authors describe that  19 the data indicates perineal exposure to talc  20 powder is a possible cause of ovarian cancer in  21 humans, correct?  22 And if you need the reference, it's  23 page 49.  24 A That's correct.  25 Possible does not preclude probable, by</p>	<p style="text-align: right;">Page 252</p> <p>1 "possible" here can cover a range of possibilities  2 that includes probable.  3 So if something is possible, that means  4 it could happen, and in their view or in some of  5 their -- those authors' view, the possibility or  6 the probability of -- of such a thing happening  7 might be greater than 50 percent, and they might  8 still describe it as a possible cause of ovarian  9 cancer.  10 Q You would be --  11 MR. KLATT: Object. Nonresponsive.  12 Sorry.  13 BY MS. BRANSCOME:  14 Q You would be purely speculating to opine  15 that the Taher authors, for example, when they  16 used the term "possible" to describe the  17 association, they actually meant probable,  18 correct?  19 MS. PARFITT: Objection. Form.  20 THE WITNESS: I didn't say they -- they  21 actually -- I meant -- I said that it could  22 include probable.  23 And so you are -- the sense of your  24 question is to suppose or assume that their use of  25 the word "possible" excludes the concept of</p>
<p style="text-align: right;">Page 251</p> <p>1 the way. I'm not -- I'm not assume- -- are you  2 assuming that they had in mind the IARC  3 classification system and that these two  4 categories are mutually exclusive?  5 Q My question to you, Dr. Siemiatycki, is  6 did any of the authors of the three other  7 meta-analyses, Berge, Penninkilampi or Taher,  8 conclude in their papers that perineal talc use is  9 a probable cause of ovarian cancer?  10 MS. PARFITT: Objection. Form. Asked  11 and answered.  12 THE WITNESS: They did not use that  13 word. But I would not infer that they don't think  14 it's a probable cause from the write-up of  15 their -- from their write-up. It is possible that  16 they consider the description of this as a --  17 where is the word "possible"? Is that in the  18 Conclusion?  19 BY MS. BRANSCOME:  20 Q It is.  21 A Oh, yeah, possible cause.  22 You know, they are -- I mean, I can't  23 speak for them because I haven't spoken to any of  24 them about this, but I don't think they're  25 speaking to a legal audience. And the word</p>	<p style="text-align: right;">Page 253</p> <p>1 probable, that they did not think it's -- because  2 they used the word "possible," they absolutely  3 denied that it's probable. And I -- that's what  4 I'm disagreeing with.  5 BY MS. BRANSCOME:  6 Q Where I'm coming from is not relevant to  7 the question that I'm asking, Dr. Siemiatycki.  8 The question that I'm asking you is, do any of the  9 authors of the three meta-analyses that we just  10 reviewed, Berge, Penninkilampi, and Taher,  11 describe in their papers the association between  12 perineal use of talc and ovarian cancer as a  13 probable causal association?  14 MS. PARFITT: Objection. Form.  15 BY MS. BRANSCOME:  16 Q Do any of them use that term?  17 MS. PARFITT: Objection. Form.  18 THE WITNESS: None of them use that  19 term, but that doesn't preclude that they -- some  20 of them believe it is probable.  21 MR. KLATT: Object. Nonresponsive.  22 BY MS. BRANSCOME:  23 Q You have no basis for concluding or even  24 suggesting that any of these authors have the  25 opinion that it is a probable causal association</p>

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<p style="text-align: right;">Page 254</p> <p>1 other than speculating based off of what you're 2 reading on the page, correct? 3 MS. PARFITT: Objection. Form. 4 THE WITNESS: Correct. Nor do I have 5 any basis for assuming that they don't think it's 6 probable on the basis of what I read. 7 BY MS. BRANSCOME: 8 Q When you write scientific manuscripts, 9 Dr. Siemiatycki, are you careful about your word 10 choice, particularly in your conclusion section? 11 MS. PARFITT: Objection. Form. 12 THE WITNESS: I try to be. I try to be. 13 BY MS. BRANSCOME: 14 Q Okay. If you could turn to tab 33 in 15 your binder. 16 Are you familiar with the document that 17 is located behind tab 33 in your binder there? 18 A I -- I think so. I -- mine had a 19 different cover page when I printed it off, but 20 that's fine. I'm -- I assume it's the same one 21 I -- I had. 22 MR. TISI: It's not. It's not. 23 MS. PARFITT: What are you referring to? 24 MR. TISI: The draft article is not -- 25 MS. PARFITT: Yeah, I know that.</p>	<p style="text-align: right;">Page 256</p> <p>1 bureau or division. I'm not quite sure. 2 Q Okay. And the document that you're 3 looking at there is contained within a binder that 4 we have previously marked as Exhibit 4, correct? 5 A Correct. 6 Q All right. Is this an item -- is this 7 an item. 8 Is this Draft Screening Assessment a 9 document that you considered in forming your 10 opinions in this case? 11 A No, it isn't. 12 Q Why not? 13 A Because I was only aware of it a month 14 or -- a month and a half or two months after I 15 completed my report, and two years after I formed 16 the main part of my opinion. 17 Q How did you obtain a copy of the Draft 18 Screening Assessment by Health Canada? 19 A I think that this was on the internet. 20 I think I -- 21 THE WITNESS: Yeah, some other -- there 22 should be a light button that we can press. 23 Excuse me. Excuse me, just maybe off 24 the record for a second. 25 (A discussion was held off the record.)</p>
<p style="text-align: right;">Page 255</p> <p>1 THE WITNESS: Is it the Draft Screening 2 Assessment? 3 MR. TISI: No, that's not the same. 4 THE WITNESS: No? 5 MR. TISI: It's not. 6 MS. PARFITT: Do you have a copy of 7 yours? 8 THE WITNESS: Yeah. 9 MS. BRANSCOME: Can we go off the record 10 while we figure this out? 11 MS. PARFITT: Sure, that would be fine. 12 THE VIDEOGRAPHER: We're going off the 13 record at 6:58 p.m. 14 (Pause in the proceedings.) 15 THE VIDEOGRAPHER: We're back on the 16 record at 7:01 p.m. 17 BY MS. BRANSCOME: 18 Q Dr. Siemiatycki, you have a document in 19 front of you that is labeled a "Draft Screening 20 Assessment" dated December 2018; is that correct? 21 A Yes, I do. 22 Q And this is a screening assessment by 23 the Environment and Climate Change Canada, Health 24 Canada, correct? 25 A It's a branch of Health Canada or a</p>	<p style="text-align: right;">Page 257</p> <p>1 THE VIDEOGRAPHER: We are going off the 2 record at 7:03 p.m. 3 (Pause in the proceedings.) 4 THE VIDEOGRAPHER: We are back on the 5 record at 7:03 p.m. 6 BY MS. BRANSCOME: 7 Q Dr. Siemiatycki, we paused because the 8 lights turned off, but my question to you is, how 9 did you obtain a copy of the Draft Screening 10 Assessment by Health Canada? 11 A Either it was sent to me by Ms. Parfitt 12 or her staff, or I found it on the internet. And 13 I can't quite remember now. 14 Q Do you remember when you first obtained 15 a copy of the Draft Screening Assessment? 16 A My guess is just before I went on 17 vacation for Christmas and New Years. So it would 18 have been mid -- mid to -- mid-December, I guess, 19 something like that. 20 Q Are you familiar with the process by 21 which draft screening assessments are generated by 22 Health Canada? 23 A No, not really. I was involved with 24 this department of Health Canada 30 years ago, and 25 I haven't been involved since. I don't know how</p>

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<p style="text-align: right;">Page 258</p> <p>1 they function really to produce these evaluations 2 and reports. 3 Q Did you have any involvement, even 4 tangentially, in the development of the Draft 5 Screening Assessment by Health Canada? 6 A No. 7 Q Were you ever asked to consult on any of 8 the content that ultimately ended up in the Draft 9 Screening Assessment? 10 A No, I wasn't. 11 Q Were you ever contacted about 12 potentially being involved in a Draft Screening 13 Assessment of talc for Health Canada? 14 A No. Never. 15 Q You are aware that this is in fact a 16 draft assessment by Health Canada, correct? 17 MS. PARFITT: Objection. Form. 18 THE WITNESS: I see that's what it says 19 on the cover page. 20 BY MS. BRANSCOME: 21 Q Are you aware of what further steps in 22 the process must be taken before the draft 23 assessment is potentially accepted or modified? 24 MS. PARFITT: Objection. Form. 25 THE WITNESS: I'm not familiar with the</p>	<p style="text-align: right;">Page 260</p> <p>1 A Yes. 2 Q Do you believe -- 3 A If I make such a submission, yes. 4 Q Why -- well, first of all, do you think 5 it's important to disclose your involvement in the 6 litigation if you were to submit something for 7 public comment? 8 A Yes, I think it is. 9 Q And why is that? 10 A Because there's a potential conflict of 11 interest, and they should know about it. 12 Q Would you also notify IARC of your role 13 in litigation involving talcum powder products if 14 you submitted something to them to suggest that a 15 formal evaluation of talc be conducted? 16 A Yes, I would. 17 Q Is that for the same reason? 18 A Yes, it is. 19 Q Is the Draft Screening Assessment the 20 type of material that you think it is reliable to 21 base an expert opinion on? 22 MS. PARFITT: Objection. Form. 23 THE WITNESS: An expert opinion about 24 what? 25 BY MS. BRANSCOME:</p>
<p style="text-align: right;">Page 259</p> <p>1 details, no. 2 BY MS. BRANSCOME: 3 Q What are you familiar with, if not the 4 details? 5 A I remember seeing that there's a public 6 consultation opportunity, and -- so I guess there 7 will be a period of time during which they will 8 accept public recommendations and comments. And I 9 don't know if it's the same committee that will 10 then review all of that or a committee that's 11 higher up on the administrative pecking order. I 12 don't -- I don't know what happens internally. 13 Q Do you intend to submit anything for 14 the -- during the public comment period? 15 A I -- yeah, I hope to do so. I hope to 16 do so. 17 Q What specifically do you intend to 18 submit? 19 A I'm not sure yet. I -- I would probably 20 submit an opinion supporting the notion that 21 perineal use of talc is more likely than not 22 related to ovarian cancer. 23 Q In your submission, do you intend to 24 disclose your role in litigation involving talcum 25 powder products?</p>	<p style="text-align: right;">Page 261</p> <p>1 Q About the potential relationship between 2 talc and ovarian cancer. 3 MS. PARFITT: Objection. Form. 4 THE WITNESS: Are you asking if it would 5 influence my opinion on the issue or -- 6 BY MS. BRANSCOME: 7 Q So under- -- understanding that the 8 Draft Screening Assessment came out after you had 9 formed your opinion, I'm asking you that if that 10 had not been the case, if it had come out while 11 you were still forming your expert opinion, is 12 this something that you would rely on? 13 A I would take cognizance of it, and I'm 14 not sure whether it would persuade me in one 15 direction or another on the strength of the 16 evidence, but it -- it would certainly give me -- 17 increase my comfort level to draw inferences to 18 see what inferences other people draw. I won't 19 necessarily follow their opinions, but I find it 20 useful to know what inferences they would draw 21 from it. 22 Q Is a Draft Screening Assessment the type 23 of report or publication that you see cited in 24 published scientific literature? 25 MS. PARFITT: Objection. Form.</p>

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<p style="text-align: right;">Page 262</p> <p>1 THE WITNESS: Not -- not -- in  2 scientific literature, not so much, no.  3 BY MS. BRANSCOME:  4 Q The draft assessment -- first of all,  5 are you familiar with the proposal with respect to  6 talc that's contained in the draft assessment?  7 A Which proposal are you referring to?  8 Q I could refer you specifically to  9 page --  10 MR. TISI: I spilled coffee on it too.  11 Sorry. You get what you get.  12 BY MS. BRANSCOME:  13 Q -- on page 29.  14 A The Conclusion section?  15 Q Yes. Have you reviewed this before?  16 A I-- I might have looked at it quickly.  17 But let me -- let me review it -- let me read it  18 now. (Peruses document.)  19 You know, it refers to the fit of the --  20 their findings and conclusions with various  21 articles of law in the Canadian Environmental  22 Protection Act. I would have to know what those  23 articles of law are that this conforms to, that  24 these sentences purportedly conform to. I -- I  25 have no reason to doubt what they say, but I -- I</p>	<p style="text-align: right;">Page 264</p> <p>1 describing the conclusion as a proposal? Or --  2 yeah.  3 BY MS. BRANSCOME:  4 Q Focusing specifically on the second  5 paragraph where it says: "It is proposed to  6 conclude that talc meets the criteria under  7 paragraph 64(c) of CEPA as it is entering or may  8 enter the environment in a quantity or  9 concentration or under conditions that constitute  10 or may constitute a danger in Canada to human life  11 or health."  12 MS. PARFITT: Objection. Form.  13 THE WITNESS: It's not a way of  14 describing scientific evidence that I'm intimately  15 familiar with. So I would need to review this  16 document in more detail and be aware of the  17 paragraph 64(c) of the CEPA.  18 BY MS. BRANSCOME:  19 Q And that is not something you --  20 A So I'm not --  21 Q -- have done as of today?  22 A It's not something I base -- today I  23 couldn't say I agree with this or I don't agree  24 with this.  25 Q Okay. And so this is not -- the Draft</p>
<p style="text-align: right;">Page 263</p> <p>1 can't confirm.  2 Q So as you sit here today, are you  3 capable or prepared to offer an opinion as to how  4 the conclusions in the Draft Screening Assessment  5 relate to other pieces of literature that we've  6 discussed today?  7 MS. PARFITT: Objection. Form.  8 THE WITNESS: How they relate to -- or  9 whether they're concordant with other pieces?  10 It's difficult for me to say without studying this  11 document more and seeing what the conformity is  12 with the Canadian pieces of legislation that they  13 refer to. So I -- I can't -- I can't give you  14 much more than that.  15 BY MS. BRANSCOME:  16 Q So as you sit here today, could you --  17 do you have an opinion as to how the proposal in  18 the Draft Screening Assessment with respect to  19 talc relates to the current IARC classification of  20 talc?  21 MS. PARFITT: Objection. Form.  22 THE WITNESS: By proposal, you mean the  23 conclusion?  24 MS. PARFITT: The entire document.  25 THE WITNESS: You're -- you're</p>	<p style="text-align: right;">Page 265</p> <p>1 Screening Assessment by Health Canada is not  2 something that you are relying upon in any way in  3 offering your expert opinions in this case; is  4 that correct?  5 MS. PARFITT: Objection. Form,  6 misstates his testimony.  7 THE WITNESS: No. As I said, I didn't  8 rely on this to form my opinion.  9 BY MS. BRANSCOME:  10 Q Okay.  11 MS. BRANSCOME: Could we go off the  12 record just briefly?  13 MS. PARFITT: Of course.  14 THE VIDEOGRAPHER: We're going off the  15 record at 7:15 p.m.  16 (Pause in the proceedings.)  17 THE VIDEOGRAPHER: We're back on the  18 record at 7:16 p.m.  19 BY MS. BRANSCOME:  20 Q Dr. Siemiatycki, can you describe -- can  21 you identify for me specifically the pieces of  22 evidence that you would cite to in support of your  23 opinion that there is evidence consistent with a  24 dose-response relationship that was not considered  25 by the IARC 2006 working group?</p>

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<p style="text-align: right;">Page 266</p> <p>1 A Can --</p> <p>2 Q And I'm just looking for an</p> <p>3 identification of the papers.</p> <p>4 A Let me just dig out -- I keep hiding</p> <p>5 things from myself.</p> <p>6 MS. PARFITT: Okay.</p> <p>7 THE WITNESS: Oh, there.</p> <p>8 The primary pieces of evidence -- the</p> <p>9 primary piece of evidence is the analysis carried</p> <p>10 out in the Terry, et al., paper where they</p> <p>11 combined ten different studies from eight</p> <p>12 different research teams. They had by far the</p> <p>13 largest sample size of any conglomeration of</p> <p>14 studies ever conducted, enough to properly</p> <p>15 evaluate dose-response. And that's one of them.</p> <p>16 The second one is the Schildkraut study,</p> <p>17 which is much smaller than the Terry study in</p> <p>18 terms of numbers.</p> <p>19 And the third -- a third one, which was</p> <p>20 not part of the evidence that influenced my</p> <p>21 evaluation, is the latest version of the Berge</p> <p>22 paper which has some dose-response results in a</p> <p>23 table whose origin I don't completely understand,</p> <p>24 but ostensibly it gives dose-response trends that</p> <p>25 are significant and meaningful for duration and</p>	<p style="text-align: right;">Page 268</p> <p>1 use your own copy if that's more convenient.</p> <p>2 A Yep. There we go. Okay.</p> <p>3 Q Did the authors of the Terry 2013 paper,</p> <p>4 did they conclude in their manuscript that they</p> <p>5 had observed a statistically significant dose-</p> <p>6 response relationship between the perineal use of</p> <p>7 talc and ovarian cancer?</p> <p>8 A They reported two different ways of</p> <p>9 calculating the statistical significance of a</p> <p>10 trend. One of them was significant, and the other</p> <p>11 was formal, in terms of the conventional 0.05</p> <p>12 statistical significance level, was not</p> <p>13 significant at that level.</p> <p>14 Q And in fact in the abstract, the authors</p> <p>15 of the Terry paper state that: "Among genital</p> <p>16 powder users, we observed no significant trend,</p> <p>17 p equals 0.17, in risk with increasing number of</p> <p>18 lifetime applications," in parentheses, "assessed</p> <p>19 in quartiles."</p> <p>20 Did I read that correctly?</p> <p>21 A That's correct.</p> <p>22 Q Okay. Now, in your 2016 report --</p> <p>23 A Yeah.</p> <p>24 Q -- you had the statement that: "The</p> <p>25 appropriate statistical test for trend is one that</p>
<p style="text-align: right;">Page 267</p> <p>1 frequency of exposure. But I would put less</p> <p>2 weight on that until I fully understand what --</p> <p>3 how they derived those estimates.</p> <p>4 BY MS. BRANSCOME:</p> <p>5 Q Okay. So the pieces of evidence that</p> <p>6 you would cite to in support of the idea that</p> <p>7 there has been a development that is supportive of</p> <p>8 a dose-response relationship between perineal talc</p> <p>9 and ovarian cancer since the IARC classification</p> <p>10 of talc as a 2B would be the Terry, the</p> <p>11 Schildkraut, and potentially the Berge analysis;</p> <p>12 is that correct?</p> <p>13 MS. PARFITT: Objection --</p> <p>14 THE WITNESS: Yes.</p> <p>15 MS. PARFITT: -- to the reference of</p> <p>16 "potentially the Berge." Form.</p> <p>17 BY MS. BRANSCOME:</p> <p>18 Q You did not rely in any way on the</p> <p>19 analysis in the Berge 2018 paper for your</p> <p>20 conclusion that there is evidence compatible with</p> <p>21 a dose-response relationship between perineal talc</p> <p>22 use and ovarian cancer, correct?</p> <p>23 A That's correct.</p> <p>24 Q Okay. So looking first at the Terry</p> <p>25 2013 paper. This is tab 14 or you're welcome to</p>	<p style="text-align: right;">Page 269</p> <p>1 excludes the baseline unexposed category."</p> <p>2 Do you remember having that sentence in</p> <p>3 your 2016 report?</p> <p>4 A I remember the -- the idea being there,</p> <p>5 yes.</p> <p>6 Q Okay. And you would agree that if you</p> <p>7 apply that statistical test for trend, meaning you</p> <p>8 exclude the baseline unexposed category, the Terry</p> <p>9 2013 paper does not demonstrate a dose-response</p> <p>10 relationship, correct?</p> <p>11 MS. PARFITT: Objection.</p> <p>12 THE WITNESS: No.</p> <p>13 MS. PARFITT: Misstates testimony.</p> <p>14 THE WITNESS: So I would not conclude --</p> <p>15 I would say that it demonstrates dose-response,</p> <p>16 but not at a statistical -- at a 0.05 statistical</p> <p>17 significance level.</p> <p>18 And I would also -- I can't remember the</p> <p>19 wording and the context in the 2016 report that</p> <p>20 you're referring to, but I would imagine that I</p> <p>21 preceded that statement with some mention of the</p> <p>22 fact that it depends if you are using the overall</p> <p>23 risk among all exposed people compared to</p> <p>24 unexposed people as a complementary piece of</p> <p>25 information.</p>

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<p style="text-align: right;">Page 270</p> <p>1 And it's only in the context when you 2 are using the -- all the exposed compared to all 3 the unexposed, and at the same time carrying out 4 an analysis of the different levels of exposure, 5 that including the unexposed among the -- in that 6 trend analysis becomes overlapping information 7 with the overall -- the significance of the 8 overall estimate. 9 BY MS. BRANSCOME: 10 Q Okay. 11 A This -- I'm not quite finished. Sorry. 12 So -- and because I don't want you to 13 think that I believe or believed that on its own 14 there is no evidence of dose-response. There is 15 evidence of dose-response in the Terry analysis. 16 The choice of which p-value to report on the trend 17 analysis depends completely on how one combines 18 that information with the ever exposed/never 19 exposed information and the p-value for that. 20 That when we want completely independent and 21 separate strands of evidence to corroborate each 22 other, then it's appropriate to exclude the 23 unexposed from the p-value computation. 24 When you are using -- when you are not 25 using the binary exposed/unexposed as part of the</p>	<p style="text-align: right;">Page 272</p> <p>1 are you positing? 2 BY MS. BRANSCOME: 3 Q Of those ten studies, which, if any of 4 them, postdate 2006? Do you know? 5 A Most of them do. I would say -- I think 6 the only one -- ones that were published before 7 2006 were a study by Chang and one or two of the 8 components of Cramer's studies. I think the rest 9 were all published post-2006. 10 Q Okay. Did you independently do an 11 analysis of the potential dose-response 12 relationship of perineal talc use and ovarian 13 cancer? 14 MS. PARFITT: Objection. Form. 15 THE WITNESS: By "independently," you 16 mean trying to replicate the Terry analysis? No. 17 I don't see why I would be motivated to do 18 something that someone else has already done. 19 BY MS. BRANSCOME: 20 Q Okay. So you are relying on the data as 21 reported by Terry 2013 that you consider to be 22 evidence in support of a dose-response 23 relationship, correct? 24 A That's correct. 25 Q Okay. But the authors themselves do not</p>
<p style="text-align: right;">Page 271</p> <p>1 package of information to demonstrate causation, 2 then the correct p-value is the one that includes 3 the unexposed. So it depends how you use these 4 things. 5 If I didn't qualify that statement that 6 you read before, then I was in error. 7 Q If you did not have the Terry 2013 8 study -- 9 A Yes. 10 Q -- set that aside for a moment, you did 11 not have that data, would it still be your opinion 12 that the perineal use of talc probably causes 13 ovarian cancer? 14 A So -- 15 MS. PARFITT: Objection. Form. 16 THE WITNESS: So just to be clear what 17 the hypothetical supposition is, so the Terry 18 paper doesn't exist, but the studies underlying 19 the Terry paper still do exist, correct? Or they 20 don't exist either? 21 So there are ten studies underlying the 22 Terry reanalysis. Is your hypothetical question 23 about the possibility that none of those studies 24 existed or that they existed, but nobody actually 25 put them together to combine an analysis? What</p>	<p style="text-align: right;">Page 273</p> <p>1 conclude that there has been a statistically 2 significant dose-response relationship established 3 for the perineal use of talc and ovarian cancer, 4 correct? 5 MS. PARFITT: Objection. Form, 6 misstates the evidence. 7 THE WITNESS: I -- I didn't review what 8 they concluded in the Discussion section. If you 9 want, I could review that. And I -- I don't 10 remember what -- what kind of narrative inferences 11 they made about it. 12 BY MS. BRANSCOME: 13 Q Okay. 14 A You're asking me to confirm that they 15 didn't conclude, so I would want -- their data in 16 my mind indicates dose-response. How they 17 interpret it -- as I said before, they're two 18 separate things, the production of findings from 19 research and the interpretation of those findings. 20 I am as capable of interpreting -- they 21 aren't as capable of interpreting my findings from 22 my studies as I am or they are as capable -- they 23 have the right to. I have the right to interpret 24 their findings. It's a different activity 25 producing findings and then interpreting them. So</p>

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<p style="text-align: right;">Page 274</p> <p>1 how they interpreted their findings, I don't quite 2 remember exactly what they said about it. 3 Q Okay. 4 MS. BRANSCOME: I am going to pass to 5 counsel for Imerys at this time. 6 MR. KLATT: Can we go off the record for 7 just a couple of minutes? Let me get organized. 8 THE VIDEOGRAPHER: We are going off the 9 record at 7:31 p.m. 10 (Pause in the proceedings.) 11 THE VIDEOGRAPHER: We are going back on 12 the record at 7:32 p.m. 13 DIRECT EXAMINATION 14 BY MR. KLATT: 15 Q Good afternoon -- good evening, 16 Dr. Siemiatycki. 17 A Good evening. How are you? 18 Q I'm Mike Klatt. I represent Imerys Talc 19 America in this case. 20 I don't know if you recall or not, but 21 you and I had met about two years ago when you 22 were giving a deposition in the Oules and Swan 23 cases. Do you recall that? 24 A I do recall that. 25 Q Okay.</p>	<p style="text-align: right;">Page 276</p> <p>1 people at IARC and the public generally to know 2 that you had been a retained and paid expert by 3 plaintiffs' counsel in the talc ovarian cancer 4 litigation; is that correct? 5 A Sir, can you -- I think I already said 6 that, but could you repeat? Maybe I'm 7 misunderstanding. 8 Q Yes. I'm just saying such a conflict of 9 interest disclosure on your part, it would be 10 important to disclose not merely that you had been 11 a consultant or merely that you had been involved 12 in litigation involving ovarian cancer, but it 13 would be important to specifically disclose that 14 you had been a retained and paid expert by 15 plaintiffs' counsel in the talc/ovarian cancer 16 litigation. Correct? 17 MS. PARFITT: Objection. Form, asked 18 and answered. 19 THE WITNESS: I -- I'm not sure I 20 understand the distinction between this last 21 affirmation and the one before. I -- yes, it -- 22 BY MR. KLATT: 23 Q Well, we've had -- we've had other 24 conflict of interest disclosures, and I put that 25 in quotes, where people said that they had been a</p>
<p style="text-align: right;">Page 275</p> <p>1 A Very fondly. 2 Q Thank you. 3 I just have a few questions for you, and 4 I want to go back and just make sure the record is 5 clear on something. 6 Your testimony is you've had no contact 7 or communications whatsoever with anyone with 8 Health Canada regarding talc; is that correct? 9 A That's correct. 10 Q And you've had no contact or 11 communications whatsoever with Dr. Krewski or 12 anyone else who's an author of the Taher 13 meta-analysis regarding talc? 14 A That's correct. 15 Q That's correct. Okay. 16 A minute ago I believe you told 17 Ms. Branscome that if you continued to interact 18 with IARC or have contact with Health Canada 19 regarding the issue of talc and ovarian cancer, 20 it's incumbent upon you to have a conflict of 21 interest disclosure, correct? 22 A Yes. I said that. 23 Q And you would agree with me it would be 24 important in evaluating any potential bias you 25 have for the people at Health Canada and the</p>	<p style="text-align: right;">Page 277</p> <p>1 consultant, period. That wouldn't be sufficient, 2 would it? 3 A I would -- 4 MS. PARFITT: Objection. Form. 5 THE WITNESS: I would not do that. 6 BY MR. KLATT: 7 Q And we've had people say, I've been 8 involved as an expert in ovarian cancer 9 litigation. That wouldn't be sufficient either, 10 correct? 11 MS. PARFITT: Objection. Form. 12 THE WITNESS: I would not do that. 13 BY MR. KLATT: 14 Q What you would do is you would say, I 15 have been a retained and paid expert by 16 plaintiffs' counsel in the talc/ovarian cancer 17 lawsuits, or something essentially equivalent to 18 that. 19 A I -- I would say something essentially 20 equivalent. It's quite possible that if there was 21 a submission to a journal, for example, or a 22 manuscript, the journal may have a formulaic way 23 of expressing that. So... 24 Q But wouldn't it be important to the 25 readers to know which side of the litigation you</p>

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<p style="text-align: right;">Page 278</p> <p>1 had been on in evaluating your bias?</p> <p>2 MS. PARFITT: Objection. Form, asked</p> <p>3 and answered.</p> <p>4 THE WITNESS: I -- I would -- I would</p> <p>5 disclose the nature of my involvement.</p> <p>6 BY MR. KLATT:</p> <p>7 Q Including which side?</p> <p>8 A Including which side I was consulting</p> <p>9 for.</p> <p>10 Q Okay.</p> <p>11 MR. KLATT: Can we mark this as the next</p> <p>12 exhibit?</p> <p>13 MS. PARFITT: 14.</p> <p>14 (Exhibit No. 14 was marked for</p> <p>15 identification.)</p> <p>16 BY MR. KLATT:</p> <p>17 Q Dr. Siemiatycki, you said earlier that</p> <p>18 you worked with Dr. Koushik; is that correct?</p> <p>19 A Yes.</p> <p>20 Q And what is your professional</p> <p>21 relationship with Dr. Koushik?</p> <p>22 A We are members of the same academic</p> <p>23 department. We are down the hall from each other.</p> <p>24 Our offices are nearby each other. We have worked</p> <p>25 together on various projects.</p>	<p style="text-align: right;">Page 280</p> <p>1 PROVAQ study, correct?</p> <p>2 A Correct.</p> <p>3 Q And that's the study she is working on</p> <p>4 with you, correct?</p> <p>5 A More I'm working on with her, but she's</p> <p>6 the lead on that.</p> <p>7 Q And with the help of others in your</p> <p>8 group as well --</p> <p>9 A With the help of others, yes.</p> <p>10 Q -- correct?</p> <p>11 And what I've handed you --</p> <p>12 MR. KLATT: And what was the exhibit</p> <p>13 number?</p> <p>14 MR. TISI: 14.</p> <p>15 BY MR. KLATT:</p> <p>16 Q Exhibit 14 is Dr. Koushik's web pages</p> <p>17 from the Environ Epi website. You're familiar</p> <p>18 with that website, correct?</p> <p>19 A Yes, I am.</p> <p>20 Q And you'll turn to the back page of the</p> <p>21 exhibit, the final page, and you will see it's</p> <p>22 copyrighted 2019, correct?</p> <p>23 A Correct.</p> <p>24 Q And let's just see what Dr. Koushik says</p> <p>25 about her research on the first page. She says:</p>
<p style="text-align: right;">Page 279</p> <p>1 Q For how long?</p> <p>2 A Ten -- 10 or 12 years now.</p> <p>3 Q And she's very well educated, correct?</p> <p>4 MS. PARFITT: Objection.</p> <p>5 THE WITNESS: I'm not sure what you mean</p> <p>6 by that. She has a --</p> <p>7 BY MR. KLATT:</p> <p>8 Q Well, she has a Bachelor --</p> <p>9 A She has a --</p> <p>10 Q -- of Science in pharmacology from the</p> <p>11 University of Alberta.</p> <p>12 A Correct.</p> <p>13 Q She has a Master's in community health</p> <p>14 and epidemiological from Queen's University in</p> <p>15 Kingston, Ontario?</p> <p>16 A Uh-huh.</p> <p>17 Q She has a Ph.D. in epidemiology from --</p> <p>18 in epidemiology and biostatistics from McGill</p> <p>19 University here in Montreal, correct?</p> <p>20 A Correct.</p> <p>21 Q And she's had a postdoctoral fellowship</p> <p>22 at Harvard in the U.S., correct?</p> <p>23 A Correct.</p> <p>24 Q And she is the principal investigator of</p> <p>25 the Prevention of Ovarian Cancer in Quebec, the</p>	<p style="text-align: right;">Page 281</p> <p>1 "My research program focuses on the epidemiology</p> <p>2 of ovarian and lung cancers." Correct?</p> <p>3 A Mm-hmm, yes.</p> <p>4 Q "Ovarian cancer is by far the most</p> <p>5 deadly of all gynecologic cancer. Most patients</p> <p>6 are diagnosed at advanced stages, leading to the</p> <p>7 poor prognosis, and we are currently limited in</p> <p>8 our ability to detect disease early." Correct?</p> <p>9 A Correct.</p> <p>10 Q She says: "There is overwhelming</p> <p>11 evidence that healthy lifestyle choices can reduce</p> <p>12 the risk of several cancers. However, we do not</p> <p>13 yet know of any effective ways to prevent the</p> <p>14 onset of ovarian cancer."</p> <p>15 Would you agree with that?</p> <p>16 MS. PARFITT: Objection. Form.</p> <p>17 THE WITNESS: I'm sorry, I'm trying to</p> <p>18 think of what this sentence really means. It's</p> <p>19 kind of a -- it's kind of a stock sentence that is</p> <p>20 used in -- by epidemiologists when they're looking</p> <p>21 for funding and trying to convince funders that</p> <p>22 we don't know a lot, and therefore they need to</p> <p>23 give us money. So I can imagine part of this is</p> <p>24 cut-and-pasted from that sort of document.</p> <p>25 BY MR. KLATT:</p>

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<p style="text-align: right;">Page 282</p> <p>1 Q Well, what it means is --</p> <p>2 MS. PARFITT: Wait, wait. Please let</p> <p>3 him finish.</p> <p>4 BY MR. KLATT:</p> <p>5 Q Go ahead.</p> <p>6 MS. PARFITT: Thanks, Mike.</p> <p>7 THE WITNESS: There are some risk</p> <p>8 factors that are well established for -- for</p> <p>9 ovarian cancer, which Anita is very well aware of,</p> <p>10 genetic and certain reproductive and hormonal</p> <p>11 factors.</p> <p>12 The evidence on talc is accumulating,</p> <p>13 and in my view is sufficient. Anita has not</p> <p>14 reviewed that evidence. And --</p> <p>15 BY MR. KLATT:</p> <p>16 Q Have you talked to Dr. Koushik at all</p> <p>17 about your involvement in the talc ovarian cancer</p> <p>18 litigation?</p> <p>19 A She's aware that I'm involved in this.</p> <p>20 Q Well, let's go on to see what she says</p> <p>21 here.</p> <p>22 After saying: "However, we do not yet</p> <p>23 know of any effective ways to prevent the onset of</p> <p>24 ovarian cancer," she says, "the evidence on some</p> <p>25 lifestyle factors, such as alcohol intake,</p>	<p style="text-align: right;">Page 284</p> <p>1 intake, and recreational physical activity."</p> <p>2 Correct?</p> <p>3 A Correct.</p> <p>4 Q She doesn't say a word about talc there,</p> <p>5 does she?</p> <p>6 MS. PARFITT: Objection. Form.</p> <p>7 THE WITNESS: She doesn't there because</p> <p>8 she hasn't started those analyses yet. She has</p> <p>9 started analyses -- or her -- with students on</p> <p>10 those other factors.</p> <p>11 BY MR. KLATT:</p> <p>12 Q And then flipping over to the next page,</p> <p>13 Dr. Koushik says: "Healthy lifestyle choices may</p> <p>14 also positively impact the health of ovarian</p> <p>15 cancer survivors. Indeed, until we know how to</p> <p>16 prevent ovarian cancers from occurring in the</p> <p>17 first place, cancer control through tertiary</p> <p>18 prevention aimed at improving prognosis and</p> <p>19 quality of life among those diagnosed is</p> <p>20 critical." Correct?</p> <p>21 A Correct.</p> <p>22 Q And again, no mention at all of talc,</p> <p>23 correct?</p> <p>24 MS. PARFITT: Objection. Form.</p> <p>25 THE WITNESS: Correct.</p>
<p style="text-align: right;">Page 283</p> <p>1 physical activity, and smoking, is suggestive but</p> <p>2 currently remains unclear." Correct?</p> <p>3 A Correct.</p> <p>4 Q She doesn't say one word about talc,</p> <p>5 does she?</p> <p>6 A No.</p> <p>7 MS. PARFITT: Objection. Form.</p> <p>8 THE WITNESS: Not here, no.</p> <p>9 BY MR. KLATT:</p> <p>10 Q And then she goes on to say: "More</p> <p>11 research is greatly needed, especially in light of</p> <p>12 recent discoveries that demonstrate that ovarian</p> <p>13 cancer is a heterogeneous disease." She says: "I</p> <p>14 am the principal investigator of the Prevention of</p> <p>15 Ovarian Cancer in Quebec, PROVAQ study, a</p> <p>16 population-based case-control study conducted in</p> <p>17 2011, 2016."</p> <p>18 And one of the things she's evaluating</p> <p>19 in that study is talc, correct?</p> <p>20 A Correct.</p> <p>21 Q "This study provides" -- and I'm reading</p> <p>22 on -- "This study provides a rich data source for</p> <p>23 the study of multiple hypotheses on lifestyle</p> <p>24 factors and ovarian cancer. Current projects</p> <p>25 focus on associations with shift work, caffeine</p>	<p style="text-align: right;">Page 285</p> <p>1 MR. KLATT: Let's mark that.</p> <p>2 MS. PARFITT: This is now 15.</p> <p>3 MR. KLATT: Have we marked that?</p> <p>4 MS. PARFITT: I just now did. I was</p> <p>5 looking for the stickers. I'm going to get one --</p> <p>6 here they are.</p> <p>7 THE WITNESS: I have a different cover.</p> <p>8 MS. PARFITT: It's a different one.</p> <p>9 That's yours.</p> <p>10 THE WITNESS: Oh.</p> <p>11 MS. PARFITT: This is different, this is</p> <p>12 a new item. Let me just put an exhibit on this</p> <p>13 one.</p> <p>14 (Exhibit No. 15 was marked for</p> <p>15 identification.)</p> <p>16 MS. PARFITT: Thank you.</p> <p>17 Okay. You're done with this. And he's</p> <p>18 just showing you this one.</p> <p>19 Do we have an extra copy, Mike, or is</p> <p>20 this it?</p> <p>21 MR. KLATT: I've got an extra copy if</p> <p>22 you need it.</p> <p>23 MS. PARFITT: Okay, that would be great.</p> <p>24 I will give him that one. Thank you very much.</p> <p>25 BY MR. KLATT:</p>

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<p style="text-align: right;">Page 286</p> <p>1 Q So, Dr. Siemiatycki, I'm now showing you</p> <p>2 what we marked as exhibit -- what?</p> <p>3 MS. PARFITT: 15.</p> <p>4 MR. KLATT: 15?</p> <p>5 MS. PARFITT: Yes.</p> <p>6 BY MR. KLATT:</p> <p>7 Q And it's from the Environ Epi website,</p> <p>8 your website, and it's the web pages discussing</p> <p>9 group research topics, correct?</p> <p>10 A I -- I have to tell you I don't look at</p> <p>11 this website, and I haven't actually constituted</p> <p>12 it. It's my secretary or my assistant who does</p> <p>13 this. So I'm looking at it afresh to see what's</p> <p>14 there. Yeah.</p> <p>15 Q Okay. Let's -- let's turn to the very</p> <p>16 back page, and again the copyright is 2019.</p> <p>17 That's this year, correct?</p> <p>18 A Yeah. Yes.</p> <p>19 Q And then if you will flip over to --</p> <p>20 let's see. Well, let's start -- let's see.</p> <p>21 Go first page, second page, third</p> <p>22 page -- the fourth page, there's a discussion</p> <p>23 there of the PROVAQ study of Dr. Koushik that we</p> <p>24 just talked about, correct?</p> <p>25 A Yes.</p>	<p style="text-align: right;">Page 288</p> <p>1 reproductive factors is limited. There is</p> <p>2 suggestive evidence that modifiable factors in the</p> <p>3 vitamin D pathway, (sun exposure, diet), and</p> <p>4 inflammation pathway (antiinflammatory medication</p> <p>5 use, talc use for feminine hygiene) may play a</p> <p>6 role in ovarian cancer risk, though this research</p> <p>7 has been limited by small sample sizes, crude</p> <p>8 exposure measurement and lack of control for</p> <p>9 important confounders." Correct?</p> <p>10 A That's what it says.</p> <p>11 Q Did I read that correctly?</p> <p>12 A Yes, you did.</p> <p>13 Q So on this public website, your</p> <p>14 Environmental Epi website, Dr. Jack Siemiatycki</p> <p>15 doesn't say talc use causes ovarian cancer,</p> <p>16 correct?</p> <p>17 MS. PARFITT: Objection. Form.</p> <p>18 THE WITNESS: I don't say anything on</p> <p>19 that website.</p> <p>20 BY MR. KLATT:</p> <p>21 Q Well, you -- your group doesn't say talc</p> <p>22 causes ovarian cancer, does it?</p> <p>23 MR. TISI: Objection. Form.</p> <p>24 THE WITNESS: In my opinion, this was</p> <p>25 created somewhere around 2009, 2010, 2012, in that</p>
<p style="text-align: right;">Page 287</p> <p>1 Q And the topic says: "Prevention of</p> <p>2 Ovarian Cancer in Quebec, the PROVAQ study, a</p> <p>3 case-control study of modifiable and genetic</p> <p>4 factors associated with the risk of ovarian</p> <p>5 cancer." Correct?</p> <p>6 A I see that.</p> <p>7 Q And it says Anita Koushik, that's</p> <p>8 Dr. Koushik, who we've just been talking about,</p> <p>9 and it says Jack Siemiatycki. That's you,</p> <p>10 correct?</p> <p>11 A That's right.</p> <p>12 Q And then it goes on to describe what the</p> <p>13 PROVAQ study is, and it says -- and I'll skip the</p> <p>14 first few sentences -- it says: "Primary</p> <p>15 prevention thus offers the most promising approach</p> <p>16 to reducing the morbidity and mortality associated</p> <p>17 with this deadly disease. Established preventive</p> <p>18 factors for ovarian cancer include high parity,</p> <p>19 long duration of lactation, oral contraceptive</p> <p>20 use, and tubal ligation." Correct?</p> <p>21 A That's what it says.</p> <p>22 Q Talc is not included in that list of</p> <p>23 established preventive factors, is it?</p> <p>24 A It's not listed there, no.</p> <p>25 Q "However, the ability to modify these</p>	<p style="text-align: right;">Page 289</p> <p>1 ballpark. This feels to me like a cut and paste</p> <p>2 from the grant application of 2009 or 2010 that</p> <p>3 hasn't been changed.</p> <p>4 There's not really a lot of motivation</p> <p>5 for us to -- besides just sort of putting our</p> <p>6 names and faces up there, our institution asks us</p> <p>7 to put something on this institutional website</p> <p>8 for a researcher. I haven't -- I've never looked</p> <p>9 at this.</p> <p>10 BY MR. KLATT:</p> <p>11 Q You or your organization --</p> <p>12 MS. PARFITT: Wait. Mike -- Mike,</p> <p>13 excuse me, I think we're done.</p> <p>14 THE WITNESS: I've never contributed to</p> <p>15 this or looked at it.</p> <p>16 MS. PARFITT: No, no, Mike,</p> <p>17 unfortunately, your time is up.</p> <p>18 MR. KLATT: You've --</p> <p>19 MS. PARFITT: Mike, no more questions.</p> <p>20 I have a few questions. I think we're --</p> <p>21 MR. KLATT: Are we -- are we done?</p> <p>22 THE VIDEOGRAPHER: Yes.</p> <p>23 MR. KLATT: All right.</p> <p>24 MS. PARFITT: Thank you. I do have a</p> <p>25 few.</p>

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<p style="text-align: right;">Page 290</p> <p>1 Dr. Siemiatycki, I'm going to stay right 2 over here for a moment, okay? And we can get 3 through this. Okay? 4 MR. KLATT: Here, I'll give this back to 5 you. 6 THE WITNESS: Hi. 7 MS. PARFITT: Tell me when you are 8 ready. 9 THE WITNESS: Who are you? 10 MS. PARFITT: I know. 11 MR. TISI: Are we back on? Are we back 12 on? 13 THE VIDEOGRAPHER: I didn't stop. 14 Sorry, I -- 15 MR. TISI: Oh, I thought we were off. 16 MS. PARFITT: Okay. We didn't -- we 17 didn't know that. 18 CROSS-EXAMINATION 19 BY MS. PARFITT: 20 Q Dr. Siemiatycki, good evening -- 21 Okay. Dr. Siemiatycki, good evening. I 22 know it's been a long day, and I have a few 23 questions, and I will be wrapping -- or jumping 24 around a bit, so hopefully try and keep pace with 25 me, and I'll try and speak slowly and -- so that</p>	<p style="text-align: right;">Page 292</p> <p>1 MS. BRANSCOME: Objection. 2 THE WITNESS: I think it was ordered -- 3 it was contracted in order to underpin the Health 4 Canada evaluation. That's my -- 5 BY MS. PARFITT: 6 Q All right. Now, it was not the only 7 study or research that was conducted by Health 8 Canada; is that correct? It was the meta-analysis 9 that was conducted by them. 10 MS. BRANSCOME: Objection. 11 THE WITNESS: Sorry, I -- what -- 12 BY MS. PARFITT: 13 Q The Taher study -- 14 A Study. 15 Q -- is a meta-analysis; is that correct? 16 A Yes. Yes. 17 Q All right. And the Taher meta-analysis 18 was one part of the information that formulated 19 part of the Health Canada draft assessment? 20 A That's my understanding, yes. 21 Q All right. Now, Daniel Krewski, you 22 indicated, was one of the authors of the Taher 23 paper. 24 A Yes. He's listed. 25 Q And I believe you testified that you</p>
<p style="text-align: right;">Page 291</p> <p>1 we can move through the remainder of your 2 deposition. 3 Dr. Siemiatycki, do you have an opinion 4 as to whether the elimination of talcum powder use 5 in the genital area is a lifestyle activity that 6 is modifiable? 7 If you need me to ask the question 8 again, I'm happy to. 9 A Yeah, I'm trying to think of how the 10 word "modifiable" is used. 11 Q Is it preventable? Is the use of talcum 12 powder products in the genital area a preventable 13 activity? 14 A Yes. 15 MS. BRANSCOME: Objection. 16 BY MS. PARFITT: 17 Q All right. Thank you. 18 All right. You were asked some 19 questions about the Taher article. You remember 20 that? 21 A Yes. 22 Q All right. And is it your understanding 23 that the Taher article is a meta-analysis that was 24 formed as part of the Health Canada 25 recommendation?</p>	<p style="text-align: right;">Page 293</p> <p>1 know Daniel Krewski. 2 A Yes, I do. 3 Q And I believe Mr. Klatt asked you 4 whether or not you had reached out or perhaps 5 Ms. Branscome asked you whether or not you have 6 had any communication with anyone, verbal, oral, 7 written, that had anything to do with Health 8 Canada. Do you remember that? 9 A Yes, I do remember. 10 Q All right. And it's been many hours, 11 but it was my understanding in response to that 12 question, you did indicate that you had sent an 13 e-mail to Daniel Krewski; is that correct? 14 MS. BRANSCOME: Objection. 15 THE WITNESS: I don't remember saying 16 that. 17 BY MS. PARFITT: 18 Q Okay, let me ask you. Have you ever 19 reached out to any member or author of the Taher 20 meta-analysis? 21 A I -- when I learned about it, I sent an 22 e-mail to Dan Krewski asking if this report was 23 intended for publication; and if so, when it would 24 appear, and I haven't -- I didn't have any 25 response.</p>

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<p>1 Q All right. So you have had no 2 communication with any of the authors of the Taher 3 study or any of the members of Health Canada? 4 A No. 5 Q Okay. Now, you were asked some 6 questions with regard to the Schildkraut study in 7 particular. Now, what I'd like you to do is, if 8 you can get that in front of you, and I believe 9 it's part of the documentation in your binder, 10 number 4. 11 And what I'd ask you to also do, if you 12 will, is pull out your paper, your Terry paper -- 13 your copy of the Terry paper, and maybe we'll go 14 there first. 15 A Terry? 16 Q If you get the Terry. Do you have the 17 Terry in front of you? 18 A Yeah, I've got it in front of me, yes. 19 Q Okay. Now, Ms. Branscome asked you and 20 referred you to the abstract of the Terry paper. 21 Do you recall that -- 22 A Yes. 23 Q -- examination? 24 A Yes. 25 Q And I believe she focused your attention</p>	<p>1 you? 2 A Yes, I do. 3 Q And I believe it's a continuation of the 4 Results section -- 5 A Yes. 6 Q -- which starts on 815 and continues all 7 the way over to the end of the document. Do you 8 see that? 9 A I do. 10 Q All right. And specifically about 11 halfway down on page 817 of the Results section of 12 the Terry paper, what did the authors find as it 13 pertains to whether or not there is evidence 14 demonstrating dose-response as it relates to 15 genital powder use and ovarian cancer? 16 A So are you referring to the sentence 17 that begins "Although a significant increase"? 18 Q Correct. 19 A Or before that? 20 Q Whatever you need to read, but I was 21 specifically -- 22 A Okay. 23 Q -- referring to the "although." And you 24 can read that paragraph, please. 25 A Okay. So I'll start at the beginning of</p>
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<p>1 on the very last sentence of the Terry paper, the 2 next to last sentence which started with "Among 3 genital powder users." 4 Do you see that? 5 A I see that. 6 Q All right. And she asked you whether or 7 not indeed the abstract section of the Terry paper 8 said: "Among genital powder users, we observed no 9 significant trend, p equals 0.17, in risk with 10 increasing numbers of lifetime applications 11 (assessed in quartiles)." 12 A I see that. 13 Q All right. You've had an opportunity to 14 read this -- 15 A I've read it -- 16 Q -- article? 17 A -- several times over the last three 18 years. 19 Q All right. Let me direct your attention 20 to the actual paper, and specifically to -- not 21 the abstract of the paper but to the section 22 that's entitled -- I believe it's the Discussion 23 section and it's over on page 817. 24 A Yes. 25 Q All right. Do you have that in front of</p>	<p>1 that paragraph. 2 Q Please, if you will. 3 A Read out loud? 4 Q If you will. 5 A "We evaluated cumulative genital powder 6 exposure as a composite variable of frequency and 7 duration of use. We have observed similar 8 increased risks of all nonmucinous subtypes of 9 epithelial ovarian cancer combined across 10 quartiles of genital powder compared with nonuse." 11 The OR in the first quartile is 1.18 with 12 confidence intervals. In the second quartile, it 13 was 1.22. In the third quartile, it's 1.22. And 14 the fourth quartile it's 1.37. 15 I didn't read the confidence intervals. 16 Q Are the confidence intervals for the 17 quartiles you just discussed all statistically 18 significant? 19 A Yes, they are. 20 Q All right. Please continue. 21 A "Although a significant increase in risk 22 with an increasing number of genital powder 23 applications was found for nonmucinous epithelial 24 ovarian cancer when nonusers were included in the 25 analysis with a p-value that's extremely small,"</p>

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<p style="text-align: right;">Page 298</p> <p>1 highly significant, "no trend in cumulative use 2 was evident in analyses restricted to ever users 3 of genital powder for trend .17. Taken together, 4 these observations suggest that the significant 5 trend test largely reflects the comparison of ever 6 regular use with never use." 7 Q Okay, and if you would stop there. 8 What is the significance of the findings 9 of the authors in that paragraph you just read as 10 it pertains to whether or not this study shows a 11 dose-response increase? 12 A Well, so my interpretation is that 13 overall there is, for users compared to nonusers, 14 a highly significant trend, and four -- among the 15 four - there are four quartiles, and there is a 16 fifth group called nonusers -- they have a 17 relative risk of 1.0. And in those five groups, 18 the relative risk -- the relative risk estimates 19 go from 1.0 to 1.18 to 1.22, 1.22, 1.3, 20 something, 7. Those five values indicate to me a 21 tendency of increasing risk with increasing 22 exposure. Whether it is -- whether there's formal 23 proof of that in a -- from a statistical 24 significance point of view is a secondary issue as 25 to compared with whether the data are compatible</p>	<p style="text-align: right;">Page 300</p> <p>1 Q The Draft Screening Assessment, right. 2 A Yes. 3 Q Okay. And specifically, let me direct 4 your attention to Roman number -- Roman numeral 5 III of that document. 6 A Yes. 7 Q Okay. 8 MS. BRANSCOME: Michelle, would you mind 9 helping me follow along? 10 MS. PARFITT: Oh, I'm sure. 11 MR. TISI: I can give you my copy. 12 MS. PARFITT: Sure. Absolutely. 13 MR. KLATT: You may want those. 14 MS. BRANSCOME: Thank you. What page 15 are we on? 16 MS. PARFITT: Counsel, I'm on Roman 17 numeral III. 18 MS. BRANSCOME: Oh, the page -- I had a 19 section number that I couldn't find -- 20 MS. PARFITT: No. At the bottom it has 21 a Roman numeral III. 22 BY MS. PARFITT: 23 Q Dr. Siemiatycki, referring you to the -- 24 first, second, third -- fourth full paragraph of 25 the Draft Screening Assessment, the fourth full --</p>
<p style="text-align: right;">Page 299</p> <p>1 with dose-response. 2 So as you may recall, in the IARC 2006 3 evaluation and in -- I guess in the Langseth 4 paper, I think we indicated that we were very 5 concerned about the consistency of increased 6 risks, but found no evidence of dose-response, and 7 that held back any inference that the 8 categorization should be greater than a 2B. 9 The findings from Terry turn on its head 10 the assumptions that were made at IARC that there 11 was no evidence of dose-response. Now there is 12 evidence of dose-response, whether or not it's 13 significant by one test or another test. 14 Q All right. Thank you. 15 All right. Let me direct your 16 attention, if I may, to the Health Canada 17 document, specifically the Draft Screening 18 Assessment dated December 2018. Again, I believe 19 it's in your notebook 4. 20 A 6 -- yeah. Yes. 21 Q All right. 22 A Okay, I have it. 23 Q Now -- now -- 24 A Sorry, the Taher or the Draft Screening 25 Assessment?</p>	<p style="text-align: right;">Page 301</p> <p>1 A Begins with "full"? 2 Q No, it begins with "The meta-analysis." 3 A "The meta-analysis." Yep. 4 Q Correct. 5 Would you please -- does it state: "The 6 meta-analysis of the" -- am I reading this 7 correctly? 8 "The meta-analysis of the available 9 human studies in the peer-reviewed literature 10 indicate a consistent and statistically 11 significant positive association between perineal 12 exposure to talc and ovarian cancer." 13 Did I read that correctly? 14 A Yes, you did. 15 Q All right. Is that your opinion, 16 Dr. Siemiatycki, based upon your review of the 17 totality of the literature on talc powder -- 18 talcum powder use and ovarian cancer in the 19 genital area? 20 A Yes, it is. 21 Q All right. It goes on to say: "Further 22 available data are indicative of a causal effect." 23 Did I read that correctly? 24 A Yes, you did. 25 Q All right. Is it your opinion based</p>

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<p style="text-align: right;">Page 302</p> <p>1 upon the totality of not only the epidemiological</p> <p>2 data and findings but mechanistic data, animal and</p> <p>3 in vivo data, that indeed the data is indicative</p> <p>4 of a causal effect?</p> <p>5 MS. BRANSCOME: Objection.</p> <p>6 MR. KLATT: Objection. Form.</p> <p>7 THE WITNESS: I believe it is more</p> <p>8 likely than not that there is a causal</p> <p>9 relationship between exposure to talc powder and</p> <p>10 ovarian cancer. And if those two sentences are</p> <p>11 taken to be equivalent, then I agree with the</p> <p>12 sentence.</p> <p>13 BY MS. PARFITT:</p> <p>14 Q Well, let me ask you this,</p> <p>15 Dr. Siemiatycki: You've read the draft</p> <p>16 assessment, and do you have -- is it fair to say</p> <p>17 that the methodology that the authors performed</p> <p>18 throughout the course of this particular draft</p> <p>19 assessment is the same type of methodology that</p> <p>20 you have performed for purposes of preparing your</p> <p>21 report and offering the opinions that you have and</p> <p>22 will continue to offer the court in -- in the</p> <p>23 litigation involving talcum powder use and ovarian</p> <p>24 cancer?</p> <p>25 MS. BRANSCOME: Objection.</p>	<p style="text-align: right;">Page 304</p> <p>1 assessment?</p> <p>2 MS. BRANSCOME: Objection.</p> <p>3 THE WITNESS: When you say</p> <p>4 "methodology" --</p> <p>5 BY MS. PARFITT:</p> <p>6 Q Mm-hmm.</p> <p>7 A -- I'm not sure if you're referring to</p> <p>8 sort of high level methodology like collecting</p> <p>9 original data, evaluating it, weighing it, and</p> <p>10 making inferences on the basis of that data.</p> <p>11 BY MS. PARFITT:</p> <p>12 Q What I'm asking is, did the authors</p> <p>13 perform a Bradford Hill-like causality assessment</p> <p>14 in the performance of their study entitled Draft</p> <p>15 Screening Assessment?</p> <p>16 MR. KLATT: Objection. Form.</p> <p>17 THE WITNESS: You're saying in the pages</p> <p>18 between 15 and --</p> <p>19 BY MS. PARFITT:</p> <p>20 Q Correct. I'll shorten it by --</p> <p>21 A -- 21?</p> <p>22 Q Correct. Correct.</p> <p>23 And if I can refer your attention to or</p> <p>24 direct you to page 20.</p> <p>25 A They commented on various considerations</p>
<p style="text-align: right;">Page 303</p> <p>1 THE WITNESS: The authors of this report</p> <p>2 I think include a group -- a multidisciplinary</p> <p>3 group, including toxicologists and possibly</p> <p>4 environmental scientists. I'm not familiar with</p> <p>5 them, so I can't say for sure. And in that sense,</p> <p>6 they cover a broader disciplinary background than</p> <p>7 I cover myself. So in that sense, they have a</p> <p>8 broader scope to evaluate the totality of the</p> <p>9 evidence than I have.</p> <p>10 Their evaluation of the epidemiologic</p> <p>11 evidence seems in line with my own, and I have no</p> <p>12 reason to doubt the validity of their toxicologic</p> <p>13 analyses of the evidence.</p> <p>14 BY MS. PARFITT:</p> <p>15 Q All right. Dr. Siemiatycki,</p> <p>16 specifically let me refer you to page 15, and it's</p> <p>17 entitled "Perineal Exposure to Talc." And let me</p> <p>18 know when you get there.</p> <p>19 A Yes, I'm there.</p> <p>20 Q All right. Based upon your review of</p> <p>21 that section beginning on page 15, and I believe</p> <p>22 it goes all the way through page 21, are you able</p> <p>23 to -- do you have a sense as to the methodology</p> <p>24 again that the authors of the draft assessment</p> <p>25 employed in order to arrive at their causal</p>	<p style="text-align: right;">Page 305</p> <p>1 that Bradford Hill mentioned in his article.</p> <p>2 Q And which ones did they provide</p> <p>3 information and findings on?</p> <p>4 A They commented on the strength of the</p> <p>5 association, on consistency, specificity,</p> <p>6 temporality, biological gradient, biological</p> <p>7 plausibility, and coherence.</p> <p>8 Q And what did the authors conclude --</p> <p>9 after looking at the various Bradford Hill</p> <p>10 factors, what did they conclude in that last</p> <p>11 paragraph of their Bradford Hill assessment?</p> <p>12 A "Suggests a small but consistent</p> <p>13 statistically significant positive association</p> <p>14 between ovarian cancer and perineal exposure to</p> <p>15 talc. Further available data are indicative of a</p> <p>16 causal effect."</p> <p>17 Is it -- is that what you're referring</p> <p>18 to?</p> <p>19 Q Yes. And do you agree with the authors</p> <p>20 of the draft report of December 2018, when they</p> <p>21 conclude that: "The most recent meta-analysis</p> <p>22 detailed, Taher 2018, and consistent with the Hill</p> <p>23 criteria suggest a small but consistent</p> <p>24 statistically significant positive association</p> <p>25 between ovarian cancer and perineal exposure to</p>

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<p style="text-align: right;">Page 306</p> <p>1 talc. Further available data are indicative of a 2 causal effect"?</p> <p>3 A Yes.</p> <p>4 MR. KLATT: Objection to form.</p> <p>5 BY MS. PARFITT:</p> <p>6 Q Thank you. All right.</p> <p>7 Let me ask a couple other questions, and 8 I need you -- if you will, can you reach over 9 there, I believe it was exhibit number -- do you 10 see your book on occupational diseases? I think 11 it's under -- there you go. Okay.</p> <p>12 Okay. Now, you were asked many hours 13 ago some questions regarding the book Risk Factors 14 for Cancer in the Workplace.</p> <p>15 Do you recall that?</p> <p>16 A Yes, I do.</p> <p>17 Q All right. And that is indeed a book 18 that was authored by you, Jack Siemiatycki, 19 correct?</p> <p>20 A Correct.</p> <p>21 Q All right. And I believe you were asked 22 whether there was anything in your book that 23 described the methodology that you have employed 24 over the course, and I believe you said the last 25 four decades or almost four decades.</p>	<p style="text-align: right;">Page 308</p> <p>1 you have copies in that binder that you had 2 printed out.</p> <p>3 MS. BRANSCOME: May I have a copy if he 4 is going to read from it?</p> <p>5 MS. PARFITT: Absolutely. And I thought 6 we had -- do you have any copies in there?</p> <p>7 THE WITNESS: Oh, for this --</p> <p>8 MS. PARFITT: No.</p> <p>9 MR. TISI: It wasn't marked. It was in 10 the stuff you printed out.</p> <p>11 MS. PARFITT: I think I've got one here. 12 (A discussion was held off the record.)</p> <p>13 MS. PARFITT: Ms. Branscome, here you 14 go. Here's copies.</p> <p>15 And let's have this marked as now 16 exhibit -- I'm not sure what we're up to.</p> <p>17 MR. TISI: We're up to 18. 18.</p> <p>18 MS. PARFITT: 18. Okay.</p> <p>19 And for the record, we are marking the 20 face sheet of the book Risk Factors for Cancer in 21 the Workplace by Jack Siemiatycki, and 22 specifically the table --</p> <p>23 MS. BRENNAN: I have 16.</p> <p>24 MR. TISI: No, because he marked --</p> <p>25 MS. BRENNAN: Yeah, 14 --</p>
<p style="text-align: right;">Page 307</p> <p>1 Do you recall those questions?</p> <p>2 A Yes, I do.</p> <p>3 MS. BRANSCOME: Objection.</p> <p>4 BY MS. PARFITT:</p> <p>5 Q All right. Where in that book, if there 6 is something in that book, does it describe the 7 methodology that you have employed over the course 8 of the last four decades that you still employ 9 today in your analysis and opinions and findings 10 in the talcum powder product litigation and 11 ovarian cancer?</p> <p>12 MS. BRANSCOME: Object to form.</p> <p>13 THE WITNESS: I'm looking for -- well, I 14 guess the main thing I would -- I would summarize 15 that --</p> <p>16 BY MS. PARFITT:</p> <p>17 Q And could you tell us for the record --</p> <p>18 A Yes.</p> <p>19 Q -- Dr. Siemiatycki, where you are?</p> <p>20 A Where I'm reading?</p> <p>21 Q Yes, please.</p> <p>22 A Thank you. I'm looking at page 298 in 23 this book, and I -- did you provide a copy of that 24 chapter?</p> <p>25 MR. TISI: Doctor, you have copies --</p>	<p style="text-align: right;">Page 309</p> <p>1 MR. KLATT: Actually, it should be 16.</p> <p>2 MS. PARFITT: 16? Thank you. 16.</p> <p>3 All right. We are now marking as 4 Exhibit 16 the book entitled Risk Factors for 5 Cancer in the Workplace by Dr. Jack Siemiatycki, 6 which specifically includes the table of contents, 7 Chapter 7, "Interpretation of Findings," pages 297 8 through 308.</p> <p>9 MR. DONATH: Is that an excerpt, not the 10 whole thing?</p> <p>11 MS. PARFITT: It is -- it is not. We'll 12 make the book available, but it's just the 13 excerpt.</p> <p>14 (Exhibit No. 16 was marked for 15 identification.)</p> <p>16 MS. BRANSCOME: Did someone just join 17 the line?</p> <p>18 THE REPORTER: They hung up.</p> <p>19 THE WITNESS: Shall I read a couple of 20 paragraphs from this?</p> <p>21 BY MS. PARFITT:</p> <p>22 Q Well, the question was -- the question 23 was whether or not there was any bases or writings 24 that discussed the methodology that you've 25 employed over the last four decades, and you</p>

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<p style="text-align: right;">Page 310</p> <p>1 commented that it was in your book.  2 MS. BRANSCOME: Object --  3 BY MS. PARFITT:  4 Q So please tell us what's in your book.  5 MS. BRANSCOME: Object to form.  6 THE WITNESS: Well, I -- I won't read  7 the whole book.  8 BY MS. PARFITT:  9 Q I appreciate that. We all --  10 A I have a phone book downstairs that I  11 could -- no, I will just read a couple of  12 paragraphs that talk about interpreting and  13 conducting epidemiologic research in general, not  14 specifically related to this particular study --  15 set of studies that I describe in the book.  16 "The main purpose of epidemiology is to  17 find the cause of disease. Despite some  18 controversy concerning the validity of drawing  19 causal inferences in epidemiology. There is a  20 consensus that sanctions and provides guidelines  21 for the practice. The evaluation of causality  22 between a putative risk factor and disease is a  23 complex and subjective process. Equally competent  24 scientists examining the same information can  25 arrive at different conclusions. However, as</p>	<p style="text-align: right;">Page 312</p> <p>1 Is that what you were --  2 Q That's what I wanted to know.  3 A -- asking?  4 Q Thank you. All right.  5 Now, do you recall, Dr. Siemiatycki,  6 that you were asked some questions about the  7 mechanism underlying exposure to talc and genital  8 use of talcum powder products and ovarian cancer?  9 Do you remember Ms. Branscome asked you some  10 questions about that?  11 A The mechanism of exposure or the  12 mechanism of carcinogenesis?  13 Q The mechanism of exposure --  14 A Okay.  15 Q -- between talcum powder products and  16 ovarian cancer. Do you remember there were a  17 series of questions that were asked about that?  18 MS. BRANSCOME: Object to form.  19 THE WITNESS: I'm -- I'm not --  20 BY MS. PARFITT:  21 Q Okay. Let me -- okay. Let me -- let me  22 do this. Let me refer you to your report, if you  23 will, and I believe it's been marked as -- I think  24 this is 10 -- as 10.  25 Do you have your report in front of you?</p>
<p style="text-align: right;">Page 311</p> <p>1 additional evidence is accumulated, beliefs and  2 consensuses may change. The criteria that are  3 most relevant to the problem of evaluating  4 causality between cancer and an antecedent  5 occupational exposure may be paraphrased as  6 follows:  7 Number 1: "Is sampling variability a  8 plausible explanation for the observed  9 association?"  10 Number 2: "How strong is the  11 association and is there a dose-response  12 relationship?"  13 Number 3: "Is bias or confounding a  14 plausible explanation for the observed  15 association?"  16 Number 4: "Is the association  17 biologically plausible?"  18 Number 5: "Is there relevant supporting  19 evidence from other epidemiologic studies or from  20 non-human test systems, such as animal  21 experimentation or tests of mutagenicity?"  22 I'll stop there. But in answer to your  23 question, this text, published 30 years ago now,  24 encapsulates my approach to how to interpret and  25 use epidemiologic evidence in assessing causality.</p>	<p style="text-align: right;">Page 313</p> <p>1 A Yes.  2 Q Very good. Okay.  3 All right. And specifically I'm  4 referring to page 64 and 65.  5 A So I'm one or two pages off, so just  6 tell me which section.  7 Q Okay. I believe it's -- it's under  8 "Biological Plausibility." Do you see that in the  9 lower part? Let's see.  10 A "Biological Plausibility" -- (reading to  11 himself.) Strength. Okay. I've got it  12 somewhere -- consistency. Here.  13 Q Okay.  14 A "Biological Plausibility," yes.  15 Q Now, I specific -- I believe  16 specifically the question that you were asked is  17 whether or not you will be testifying with regard  18 to the mechanism and the biological mechanism for  19 causing cancer with genital use of talcum powder  20 products. Do you remember that?  21 A Yes.  22 Q Okay. Now, in the course of your  23 analysis and in looking at that issue of  24 biological mechanism for causing cancer, what did  25 you consult and review and assess for purposes of</p>

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<p style="text-align: right;">Page 314</p> <p>1 formulating your opinions on that topic?</p> <p>2 MS. BRANSCOME: Objection.</p> <p>3 THE WITNESS: I actually started with</p> <p>4 the IARC 2006 report where there was a high level</p> <p>5 subgroup of toxicologists and basic scientists who</p> <p>6 reviewed the evidence. So I read that material.</p> <p>7 I've read various articles concerning</p> <p>8 migration of particles, articles about</p> <p>9 inflammation as a carcinogenic process, oxidative</p> <p>10 stress as part of the carcinogenic process. And</p> <p>11 towards the end, started looking at articles about</p> <p>12 asbestos in talc as filling in some of the</p> <p>13 information about what the content of talcum</p> <p>14 powder products were. I at one point was looking</p> <p>15 at company documents to try to figure out what</p> <p>16 were the time relationships of using talc versus</p> <p>17 using substitutes for talc. So all of those kinds</p> <p>18 of things I was looking for.</p> <p>19 BY MS. PARFITT:</p> <p>20 Q So for purposes of evaluating the</p> <p>21 evidence and opining on the issue of talcum powder</p> <p>22 products and ovarian cancer, did you consider the</p> <p>23 issue of biological plausibility?</p> <p>24 MS. BRANSCOME: Objection.</p> <p>25 THE WITNESS: Yes, I considered it.</p>	<p style="text-align: right;">Page 316</p> <p>1 causality.</p> <p>2 So the bar for establishing plausibility</p> <p>3 for me is, are there credible scientists who are</p> <p>4 persuaded or have reasonable confidence that there</p> <p>5 is a mechanism that can explain the observation.</p> <p>6 And if so, I would defer to that point of view as</p> <p>7 being plausible.</p> <p>8 I would not accept that one or more</p> <p>9 scientists developing a mechanistic theory are</p> <p>10 definitely proven, but if there is a credible</p> <p>11 point of view in the scientific community about</p> <p>12 the mechanism, I would call that plausible. It</p> <p>13 doesn't mean it's proven. It's plausible.</p> <p>14 And to my satisfaction, when I looked at</p> <p>15 the different reports, including reports of</p> <p>16 experts in the litigations, I was reasonably</p> <p>17 assured that there are plausible theories and</p> <p>18 plausible hypotheses.</p> <p>19 Q All right. In your section of your</p> <p>20 expert report on page 64 through 66, did the</p> <p>21 factors you identify under the subtitle</p> <p>22 "Biological Plausibility" provide support for your</p> <p>23 opinions that indeed there is biological</p> <p>24 plausibility between the use of genital use of</p> <p>25 talcum powder products and ovarian cancer?</p>
<p style="text-align: right;">Page 315</p> <p>1 BY MS. PARFITT:</p> <p>2 Q All right. And what was the basis of</p> <p>3 your opinion as to whether or not there was</p> <p>4 biological plausibility between talcum powder</p> <p>5 product use in the genital area and ovarian</p> <p>6 cancer?</p> <p>7 MS. BRANSCOME: Objection. Assumes he</p> <p>8 formed an opinion.</p> <p>9 THE WITNESS: Well, my --</p> <p>10 BY MS. PARFITT:</p> <p>11 Q Dr. Siemiatycki, did you formulate an</p> <p>12 opinion with regard to whether there was</p> <p>13 biological plausibility between the use of talcum</p> <p>14 powder products and ovarian cancer?</p> <p>15 A Yes, I did.</p> <p>16 Q Okay.</p> <p>17 A And the first part of the discussion is</p> <p>18 what one means by "plausibility." And so one</p> <p>19 issue that I took off the table quite soon is the</p> <p>20 notion that biological plausibility is synonymous</p> <p>21 with biological proof. Neither Bradford Hill nor</p> <p>22 anyone else who has described the use of</p> <p>23 biological plausibility as a criterion has ever</p> <p>24 claimed that biological proof of a mechanism is</p> <p>25 necessary before you can opine about the -- about</p>	<p style="text-align: right;">Page 317</p> <p>1 A I think they provide evidence of</p> <p>2 plausibility for those theories.</p> <p>3 Q And did you consider those for purposes</p> <p>4 of opining that talcum powder products in the</p> <p>5 genital area, used, can cause ovarian cancer?</p> <p>6 A Yes, I considered them.</p> <p>7 Q All right. Dr. Siemiatycki, I'm not</p> <p>8 sure of the -- I don't think we marked it as an</p> <p>9 exhibit, so let me do that now. I believe we're</p> <p>10 up to 17.</p> <p>11 (A discussion was held off the record.)</p> <p>12 (Exhibit No. 17 was marked for</p> <p>13 identification.)</p> <p>14 BY MS. PARFITT:</p> <p>15 Q All right. Dr. Siemiatycki, do you</p> <p>16 recall the discussion you had with Ms. Branscome,</p> <p>17 again several hours ago, on the issue of</p> <p>18 confounding and how that can impact study designs?</p> <p>19 A Oh, yes.</p> <p>20 Q All right. Let me show you a document</p> <p>21 we have marked as Exhibit No. 17, and it's</p> <p>22 entitled "Degree of confounding bias related to</p> <p>23 smoking ethnic group, and socioeconomic status and</p> <p>24 estimates of the association between occupation</p> <p>25 and cancer," and I believe that's an article that</p>

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<p style="text-align: right;">Page 318</p> <p>1 you were an author, correct?</p> <p>2 A That's correct, yes.</p> <p>3 Q All right. What, if any, support did</p> <p>4 that particular article that you wrote, I guess</p> <p>5 back in 1988, provide, if any, for the opinions</p> <p>6 that you've rendered in this case on the topic of</p> <p>7 confounding and bias?</p> <p>8 A In this study we evaluated 75</p> <p>9 associations, 25 occupations in relation to lung</p> <p>10 cancer, to bladder cancer and to stomach cancer,</p> <p>11 each of them. And we looked at the association</p> <p>12 between each occupation and each of the three</p> <p>13 types of cancer, adjusting for the smoking history</p> <p>14 of the patients and the subjects. But another set</p> <p>15 of analyses not adjusting for their smoking</p> <p>16 histories, and their socioeconomic status and</p> <p>17 their ethnic group. These are factors that are</p> <p>18 strongly associated with cancer and with different</p> <p>19 occupations. We wanted to see how large a</p> <p>20 confounding bias could be generated by not having</p> <p>21 proper confounder information.</p> <p>22 And so I will just read a couple of</p> <p>23 sentences from the abstract of this article.</p> <p>24 "Of the 75 associations studied, only</p> <p>25 one OR was distorted by more than 40 percent. A</p>	<p style="text-align: right;">Page 320</p> <p>1 low probability.</p> <p>2 And this is part of what leads me and</p> <p>3 what led me in my report to opine that confounding</p> <p>4 is unlikely to be the explanation for the observed</p> <p>5 relative risks.</p> <p>6 Q Thank you. All right.</p> <p>7 THE VIDEOGRAPHER: Excuse me, Counsel.</p> <p>8 MS. PARFITT: Off the record, yes.</p> <p>9 THE VIDEOGRAPHER: Off the record?</p> <p>10 MS. PARFITT: Yeah, it's a good time,</p> <p>11 because you're running out of tape. I could tell.</p> <p>12 THE VIDEOGRAPHER: Going off the record</p> <p>13 at 8:27 p.m.</p> <p>14 (Recess.)</p> <p>15 THE VIDEOGRAPHER: We're going back on</p> <p>16 the record at 8:31 p.m.</p> <p>17 MS. PARFITT: Thank you.</p> <p>18 BY MS. PARFITT:</p> <p>19 Q Dr. Siemiatycki, just one last question.</p> <p>20 Let me direct your attention to again</p> <p>21 the documents in your Exhibit No. 4, specifically</p> <p>22 the "Weight of Evidence: General Principles and</p> <p>23 Current Applications at Health Canada," which</p> <p>24 formed part of the Health Canada recommendation.</p> <p>25 All right?</p>
<p style="text-align: right;">Page 319</p> <p>1 40 percent distortion would correspond to an odds</p> <p>2 ratio of 1.4 when comparing unadjusted with</p> <p>3 adjusted estimates. Three were distorted by</p> <p>4 between 30 percent and 40 percent, and four others</p> <p>5 by between 20 percent and 30 percent."</p> <p>6 So of these 75 associations, not taking</p> <p>7 account of very powerful confounders -- smoking is</p> <p>8 the most powerful confounder we know. Ethnicity</p> <p>9 and socioeconomic status are important</p> <p>10 confounders. They have strong relative risks with</p> <p>11 these different cancers. Not taking them into</p> <p>12 account could create artifactual odds ratios,</p> <p>13 maximum of 1.4, even though the original odds</p> <p>14 ratios of the confounders with these cancers could</p> <p>15 be as high as 10.</p> <p>16 So there's a very -- the confounding</p> <p>17 effect, at most, would be 10 percent or 20</p> <p>18 percent, but the likelihood that there is some</p> <p>19 unknown confounder with -- with ovarian cancer</p> <p>20 that is artifactually creating across the board,</p> <p>21 across all these studies, an artifactual relative</p> <p>22 risk of around 1.3 would require some -- that</p> <p>23 unknown confounder to have an extremely high</p> <p>24 relative risk, certainly higher than 2, maybe</p> <p>25 higher than 3 or 4, which is not inconceivable but</p>	<p style="text-align: right;">Page 321</p> <p>1 A I'm not sure if it formed part of the</p> <p>2 recommendation or if it's a background document.</p> <p>3 Q Very good. I think you're probably</p> <p>4 right.</p> <p>5 All right. And you have -- you have had</p> <p>6 a chance to review that, correct?</p> <p>7 A Yes.</p> <p>8 Q All right. Specifically let me direct</p> <p>9 your attention to page 7 of that document. And</p> <p>10 I'm going to go down to the very last paragraph,</p> <p>11 and it starts with: "The majority of risk</p> <p>12 assessment reports, however, provide a logical</p> <p>13 narrative description of the relative strengths or</p> <p>14 weakness of various lines of evidence considered.</p> <p>15 For most risk assessments, individual lines of</p> <p>16 evidence are polled and integrated into a final</p> <p>17 conclusion based on best professional judgment and</p> <p>18 not mathematical formula."</p> <p>19 Did I read that correctly?</p> <p>20 A Yes, you did.</p> <p>21 Q Do you agree with the statement by</p> <p>22 Health Canada in their "Weight of Evidence:</p> <p>23 General Principles"?</p> <p>24 A Yes, I do.</p> <p>25 MS. PARFITT: All right. I have no</p>

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<p style="text-align: right;">Page 322</p> <p>1 further questions. Thank you.</p> <p>2 THE WITNESS: This is also in conformity</p> <p>3 with all guidelines from agencies and experts who</p> <p>4 understand science.</p> <p>5 MS. PARFITT: Very good.</p> <p>6 THE WITNESS: The best data is</p> <p>7 collected, compiled, and then interpreted by human</p> <p>8 expert judgment.</p> <p>9 MS. PARFITT: Thank you very much,</p> <p>10 Dr. Siemiatycki. I believe counsel has some</p> <p>11 follow-up.</p> <p>12 MS. BRANSCOME: I do, but I think I need</p> <p>13 to take a break to confer amongst ourselves.</p> <p>14 MS. PARFITT: Go ahead.</p> <p>15 THE VIDEOGRAPHER: We're going off the</p> <p>16 record at 8:33 p.m.</p> <p>17 (Recess.)</p> <p>18 THE VIDEOGRAPHER: We are going back on</p> <p>19 the record at 8:46 p.m.</p> <p>20 REDIRECT EXAMINATION</p> <p>21 BY MS. BRANSCOME:</p> <p>22 Q Good evening, Dr. Siemiatycki.</p> <p>23 I have some follow-up questions to the</p> <p>24 questions that were just asked to you by</p> <p>25 plaintiffs' counsel.</p>	<p style="text-align: right;">Page 324</p> <p>1 gist of it was whether the paper has been or will</p> <p>2 be submitted for publication. I don't recall if</p> <p>3 there were other important components. It was a</p> <p>4 brief message, besides pleasantries of people</p> <p>5 who've known each other for 30 years.</p> <p>6 But, you know, I said I -- I've learned</p> <p>7 about this work that you were involved with. I</p> <p>8 can't remember what else I said.</p> <p>9 Q In your e-mail communication to</p> <p>10 Dr. Krewski, did you alert him to the fact that</p> <p>11 you were serving as a -- an expert on behalf of</p> <p>12 plaintiffs' counsel in litigation involving talcum</p> <p>13 powder?</p> <p>14 A I don't recall. Your question used the</p> <p>15 plural, and in my -- you said "in your</p> <p>16 communications." That's what I heard. No? Okay.</p> <p>17 Q I meant it in the singular.</p> <p>18 A You meant it in the singular, so I guess</p> <p>19 the record will reflect.</p> <p>20 In my one message to Dr. Krewski -- let</p> <p>21 me -- if I may.</p> <p>22 Q My question again, Dr. Siemiatycki --</p> <p>23 A Yeah, please.</p> <p>24 Q -- is in your e-mail to Dr. Krewski with</p> <p>25 respect to the Taher paper, did you notify him in</p>
<p style="text-align: right;">Page 323</p> <p>1 Both myself and counsel for Imerys asked</p> <p>2 you very specifically if you had had contact with</p> <p>3 any of the authors in connection with the Taher</p> <p>4 paper or the Health Canada paper. Do you recall</p> <p>5 the questions that we asked you?</p> <p>6 A I -- I recall that you asked questions</p> <p>7 about it, yes.</p> <p>8 Q Yeah. Is there a reason why during my</p> <p>9 questioning and questioning by counsel for Imerys</p> <p>10 you did not recall having sent an e-mail to</p> <p>11 Dr. Krewski with respect to the potential</p> <p>12 publication of the Taher paper?</p> <p>13 A I -- I guess I consider -- well, two</p> <p>14 parts. I consider a contact sort of a two-way</p> <p>15 process, and there was no two-way process. I sent</p> <p>16 him a message. He never responded.</p> <p>17 And number two, it -- it dropped off of</p> <p>18 my memory screen. I -- I just forgot about it</p> <p>19 until she asked.</p> <p>20 Q When did you contact Dr. Krewski about</p> <p>21 the Taher paper?</p> <p>22 A In December, when I first learned about</p> <p>23 it.</p> <p>24 Q What specifically did you ask him?</p> <p>25 A My recollection, I asked him if -- the</p>	<p style="text-align: right;">Page 325</p> <p>1 that e-mail that you were serving as an expert</p> <p>2 witness retained on behalf of plaintiffs' counsel</p> <p>3 in litigation involving talcum powder?</p> <p>4 A I -- I -- I don't recall if I did or</p> <p>5 not. I -- I wouldn't have thought it was a</p> <p>6 crucial thing to indicate in this first message</p> <p>7 asking him if his paper was in press or in</p> <p>8 publication or something like that.</p> <p>9 Q Why did you want to know whether it had</p> <p>10 been submitted for publication?</p> <p>11 A I wanted to know what the status of that</p> <p>12 report was. I had no -- I didn't follow up my --</p> <p>13 it wasn't an important issue for me. I was -- it</p> <p>14 was kind of an idle gesture of, you know, Hi, I</p> <p>15 haven't heard from you for a while. I see that</p> <p>16 you have this thing. Are you sending it for</p> <p>17 publication? Something like that.</p> <p>18 And I -- the motivation, was there a</p> <p>19 specific ulterior motive? No, there was no --</p> <p>20 there was nothing I would have done differently.</p> <p>21 I guess if he had told me, yes, it's about to be</p> <p>22 submitted, I would have wanted to see the final</p> <p>23 version, because the version that I saw was</p> <p>24 obviously an early manuscript. It was much too</p> <p>25 long for a -- for a publication submission. But</p>

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<p style="text-align: right;">Page 326</p> <p>1 it wasn't a big deal for me to -- to have 2 information about that manuscript. 3 Q Including communications in which you 4 unilaterally reached out to individuals but may 5 not have received a response, have you 6 communicated in any form with any of the 7 participants in the development of the Health 8 Canada Draft Screening Assessment or the Taher 9 paper, other than what we have discussed with 10 respect to Dr. Krewski? 11 A No. 12 Q The Health Canada Draft Screening 13 Assessment, you were asked a number of questions 14 about that by counsel for plaintiffs. Is that a 15 document that you have reviewed closely in forming 16 your opinions in this case? 17 MS. PARFITT: Objection. Form. 18 THE WITNESS: I wouldn't say that I 19 reviewed it closely the way I've reviewed the 20 evidence before submitting my report. No. 21 BY MS. BRANSCOME: 22 Q All right. I want to talk to you about 23 Exhibit 17. You have that over there. It's the 24 "Degree of confounding bias related to smoking." 25 A Oh, yeah.</p>	<p style="text-align: right;">Page 328</p> <p>1 Did I read that correctly? 2 MS. PARFITT: Counsel, just with one 3 correction. It came out as "estimates." The 4 article says "estimates," and it came out on the 5 transcript as "assessments." 6 MS. BRANSCOME: Okay. 7 THE WITNESS: That -- do you understand 8 what she's indicated? 9 BY MS. BRANSCOME: 10 Q Yes. Did I read it correctly? 11 A You misread one word. 12 Q Okay. 13 A But it's not important, but if you want 14 to have it for the record. 15 Q Well, we can continue on. 16 A Yes. 17 Q "This consideration follows from the 18 recognition that some degree of bias is quite 19 likely in any non-experimental study." 20 Did I read that correctly? 21 A Yes. 22 Q "Small excess relative risks, even if 23 they are statistically significant, are often 24 interpreted with great caution, if not 25 skepticism."</p>
<p style="text-align: right;">Page 327</p> <p>1 Q All right. Dr. Siemiatycki, is 2 Exhibit 17 an article that you identified to 3 address the likelihood that a confounding variable 4 could explain the increased risk that you have 5 found in your meta-analysis with respect to the 6 use of talc? 7 A Yes. 8 Q Okay. So I just want to direct you to 9 page 623. In the right-hand column, do you see a 10 paragraph that begins "One of the criteria"? 11 A Yes. 12 Q Does it state: "One of the criteria 13 used by epidemiologists to distinguish true from 14 false associations is the strength of the 15 association"? Did I read that correctly? 16 A Yes, you did. 17 Q And again, this is an article on which 18 you are the lead author, correct? 19 A Correct. 20 Q It continues on: "That is, among two 21 relative risk assessments which have equal levels 22 of statistical significance but one of which is 23 much greater than 1, while the other is closer 24 to 1, the larger one is considered more likely to 25 reflect a true association than the smaller one."</p>	<p style="text-align: right;">Page 329</p> <p>1 Did I read that correctly? 2 A Yes. 3 Q "Although there has been no explicit 4 consensus on what level of excess relative risk 5 should be considered too small to be taken 6 seriously, we believe that many epidemiologists 7 use a cut point in the range of 1.2 to 1.5 for 8 this purpose. Our results indicate that a cut 9 point in this range is reasonable for studies of 10 cancer occupation associations." 11 Did I read that correctly? 12 A Yes, you did. 13 Q And the references in those sentences to 14 the words "we" and "our" would include you, 15 Dr. Siemiatycki, correct? 16 A Correct. 17 Q And then if we could turn the page to 18 page 624, the paragraph at the top on the 19 left-hand column, I direct your attention to the 20 last complete sentence of that paragraph. 21 "On the other hand, our results also 22 imply that relative risk estimates as low as 1.2 23 for lung cancer associations or 1.1 for bladder or 24 stomach cancer associations run a fair chance of 25 being attributable to confounding bias, even if</p>

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<p style="text-align: right;">Page 330</p> <p>1 they are," quote, "statistically significant."  2 Did I read that correctly?  3 A Yes, you did.  4 Q Is that a conclusion that you and your  5 authors reached in the paper that's been  6 identified as Exhibit 17?  7 A Yes, it was.  8 Q Your opinion with respect to the  9 existence of biological plausibility of the  10 perineal use of talc and ovarian cancer is limited  11 to the evaluation of whether or not there are  12 credible scientists who are persuaded that there  13 is a mechanism; is that correct?  14 MS. PARFITT: Objection. Form.  15 THE WITNESS: Can you repeat that? I'm  16 sorry.  17 BY MS. BRANSCOME:  18 Q Your opinion with respect to the  19 existence of biological plausibility of the  20 perineal use of talc and its potential to cause  21 ovarian cancer is limited to an evaluation of  22 whether or not there are credible scientists who  23 are persuaded that there is a mechanism, correct?  24 MS. PARFITT: Objection. Form.  25 Misstates his testimony.</p>	<p style="text-align: right;">Page 332</p> <p>1 MS. PARFITT: Object to form.  2 THE WITNESS: Correct.  3 BY MS. BRANSCOME:  4 Q You indicated in response to questions  5 by plaintiffs' counsel that you were persuaded by  6 the opinions of other experts in the litigation  7 with respect to biological plausibility. Who are  8 those experts?  9 A I -- I think I indicated that such  10 experts contributed to the information that I had,  11 not that they were the only ones who persuaded me.  12 So there was literature and there were depositions  13 and reports.  14 So -- I'm trying to remember the names  15 of the various expert reports that I have read and  16 depositions. I do -- there's the Plunkett, the  17 Saed papers, but I don't know if there was a  18 report by Saed. There was -- let me look in my  19 list of references. (Peruses document.)  20 I'm sorry, I'm drawing a blank on the  21 names of the people whose reports and testimonies  22 I've read in the last month or two.  23 Q When were you provided with copies of  24 these expert reports?  25 A In the fall. Some before November 15th</p>
<p style="text-align: right;">Page 331</p> <p>1 THE WITNESS: I would say is based on,  2 rather than is limited to.  3 BY MS. BRANSCOME:  4 Q Do you have expertise that would allow  5 you to determine what the most likely biological  6 mechanism is, if there is one, for perineal use of  7 talc to cause ovarian cancer?  8 A No, I wouldn't pretend to -- to have  9 that kind of expertise.  10 Q Okay. Is it also true that you are not  11 qualified to opine on the ability or not of talc  12 particles to migrate to the ovaries from the use,  13 the perineal application of talc?  14 MS. PARFITT: Objection. Form.  15 THE WITNESS: Not on the basis of my  16 research, not on the basis of my training, but on  17 the basis of my reading of literature concerning  18 that issue, I have an opinion based on what I've  19 read from experts in the -- that field.  20 BY MS. BRANSCOME:  21 Q But in forming that opinion, you are  22 relying on --  23 A Yes.  24 Q -- the expertise of others, correct?  25 A Yes.</p>	<p style="text-align: right;">Page 333</p> <p>1 and some after November 15th. And -- but also  2 I'm -- I'm reflecting on the various reports and  3 testimonies from the earlier trial, and I read  4 various expert reports from that time.  5 Q Did you draft the section in your MDL  6 expert report related to biologic plausibility?  7 A Yes, I did.  8 Q You personally summarized each of the  9 various studies that you refer to in that section?  10 A What do you mean by summarized the  11 studies? I -- I summarized the evidence that's  12 captured there, and I provided references for  13 those statements, yes.  14 Q You're the original author of the  15 language in that section is my question.  16 A Yes. Yes.  17 Q Can you identify for me which expert  18 reports related to biological plausibility you had  19 reviewed before forming your opinion as  20 represented in the MDL report?  21 A As I said, it's partly a number of  22 reports that I had seen in the previous trial, and  23 I -- I'm drawing a blank on the names of -- of the  24 people.  25 Q You understand that there will be</p>

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<p style="text-align: right;">Page 334</p> <p>1 experts retained by defense counsel who will 2 provide reports addressing biological 3 plausibility, correct? 4 A I assume so, yeah. 5 Q Okay. Are you qualified to evaluate 6 between competing expert reports who is correct 7 about the biological mechanism? 8 MS. PARFITT: Objection. Form. 9 BY MS. BRANSCOME: 10 Q To the extent one exists. 11 MS. PARFITT: Objection. Form. 12 THE WITNESS: No -- no, I wouldn't be. 13 I mean I -- I can read reports from people outside 14 my area and form an opinion about the general 15 coherence and -- and form an initial sense of the 16 credibility of the various reports. And I'd be 17 happy to review the reports of the experts for the 18 defense on these issues. 19 BY MS. BRANSCOME: 20 Q But to the extent, for example, that 21 there are credible experts on both sides of the 22 debate, whether or not there has been an 23 established biological mechanism and whether or 24 not there have not been, you are not qualified to 25 evaluate between the two credible experts?</p>	<p style="text-align: right;">Page 336</p> <p>1 THE VIDEOGRAPHER: We are going off the 2 record at 9:05 p.m. 3 (Pause in the proceedings.) 4 THE VIDEOGRAPHER: We're back on the 5 record at 9:06 p.m. 6 MS. BRANSCOME: At this time I will pass 7 questioning to counsel for Imerys. 8 MS. PARFITT: Thank you. 9 REDIRECT EXAMINATION 10 BY MR. KLATT: 11 Q Dr. Siemiatycki, a few more questions, 12 sir. 13 I'm going to read a statement and ask if 14 you agree with it. Okay? 15 A Yes. 16 Q "When a pronounced binary association is 17 present, use of the never or no category in 18 assessing trend can induce a trend where none 19 exists." 20 A Okay. Can you -- yeah, thank you. 21 Q And my question is, do you agree or 22 disagree with that statement? 23 A Yes, I agree it can -- I agree with it. 24 There are some qualifiers that I would add to that 25 sentence, but I agree with it.</p>
<p style="text-align: right;">Page 335</p> <p>1 MS. PARFITT: Objection. Form. 2 THE WITNESS: That's correct. And I've 3 never pretended that -- make -- that it is 4 necessary for me to establish the correct 5 biological mechanism before drawing inferences 6 about causality. 7 BY MS. BRANSCOME: 8 Q It is your conclusion that more likely 9 than not perineal use of talc can cause ovarian 10 cancer is based on the epidemiological evidence, 11 correct? 12 MS. PARFITT: Objection. Misstates his 13 evidence and testimony today. 14 THE WITNESS: In part -- in large part. 15 Yes. 16 BY MS. BRANSCOME: 17 Q Okay. Well, my question now is about 18 the, in small part, the evidence in addition to 19 that. What evidence are you considering that you 20 are qualified to independently evaluate? 21 A I am qualified to evaluate whether there 22 is a plausible theory about it. Not to establish 23 whether that theory is correct or not. 24 MS. BRANSCOME: Okay. All right. If we 25 could just go off the record very briefly.</p>	<p style="text-align: right;">Page 337</p> <p>1 Q Could you look at your report, please, 2 sir, in the case on page 65, the discussion of 3 biologic plausibility. 4 A Yes. 5 Q And actually I think your biologic 6 plausibility discussion actually begins near the 7 bottom of the previous page, 64, and there's a 8 general discussion on the rest of 64 and the first 9 paragraph or two of 65. Is that correct? 10 A I -- I believe it's correct. The 11 version I have in front of me is that version that 12 has a slightly different formatting, so -- but I'm 13 with you. 14 Q Okay. 15 MS. PARFITT: And I believe, just for 16 completeness, it starts on 60 -- 17 THE WITNESS: Mine starts on -- 18 MS. PARFITT: His document starts on 65, 19 goes all the way over to 66. Mike, yours probably 20 starts on the bottom of 64, goes all the way over 21 to the top of 66. 22 BY MR. KLATT: 23 Q And what I'm focusing on is the 24 paragraph that you wrote that begins with 25 "Insofar" --</p>

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<p style="text-align: right;">Page 338</p> <p>1 A Yes.</p> <p>2 Q -- which is where your specific</p> <p>3 discussion of biologic plausibility regarding</p> <p>4 talcum powder products begins.</p> <p>5 A Yes.</p> <p>6 Q Do you -- do you see that paragraph,</p> <p>7 sir?</p> <p>8 A Yes, I do.</p> <p>9 Q And moving down, did you read the</p> <p>10 articles that you cited here carefully?</p> <p>11 A I read them. I'm not capable of fully</p> <p>12 understanding articles in areas that are outside</p> <p>13 my area of -- of expertise. But to the --</p> <p>14 Q Well --</p> <p>15 MS. PARFITT: Wait, let him finish.</p> <p>16 THE WITNESS: To the extent that I was</p> <p>17 able to understand them, I read these articles.</p> <p>18 BY MR. KLATT:</p> <p>19 Q I'm focusing on the sentence that you</p> <p>20 wrote in your report saying: "First of all, there</p> <p>21 are two possible routes that talcum powder</p> <p>22 products can take to reach the ovaries."</p> <p>23 Do you see where I am?</p> <p>24 A Yes, I do.</p> <p>25 Q The next sentence says: "There is</p>	<p style="text-align: right;">Page 340</p> <p>1 A I think so. Is this --</p> <p>2 Q And the --</p> <p>3 A Is this the South African study?</p> <p>4 Q I believe you're right.</p> <p>5 A Okay.</p> <p>6 Q And the women were not women using</p> <p>7 perineal talc. They were women who were being</p> <p>8 prepared to undergo gynecologic surgery, correct?</p> <p>9 A Correct.</p> <p>10 Q And after this solution of albumin</p> <p>11 microspheres was injected at the top of the</p> <p>12 vaginal vault, the women were tilted in a head</p> <p>13 down/pelvis up position for two hours beforehand,</p> <p>14 correct?</p> <p>15 A Correct.</p> <p>16 Q So --</p> <p>17 A Now I'm saying correct, but I don't</p> <p>18 remember the details that you're quoting. I</p> <p>19 remember the article. I'm -- I -- it doesn't --</p> <p>20 my recollection doesn't contradict anything you're</p> <p>21 saying.</p> <p>22 Q So Venter doesn't tell us anything at</p> <p>23 all about dry talc particles applied externally to</p> <p>24 the genital area being able to migrate up the</p> <p>25 vagina, across the cervix, up the uterus, up the</p>
<p style="text-align: right;">Page 339</p> <p>1 published evidence that talcum powder products and</p> <p>2 its constituents and contaminants that are applied</p> <p>3 to the vaginal area can migrate from there to the</p> <p>4 fallopian tubes and ovaries," citing Venter 1979,</p> <p>5 Henderson 1986, Heller 1996, "or to pelvic lymph</p> <p>6 nodes," citing Cramer 2007.</p> <p>7 Is that correct?</p> <p>8 A Yes, that's correct.</p> <p>9 Q Do you recall, Dr. Siemiatycki, that the</p> <p>10 Venter 1979 article has nothing to do with talc at</p> <p>11 all?</p> <p>12 MS. PARFITT: Objection. Form.</p> <p>13 THE WITNESS: Is that the article about</p> <p>14 asbestos?</p> <p>15 BY MR. KLATT:</p> <p>16 Q Venter 1979 is the article about albumin</p> <p>17 microspheres.</p> <p>18 A Oh, yeah. Yes.</p> <p>19 Q Do you recall that article?</p> <p>20 A I do. Well, I don't recall it well, but</p> <p>21 I recall reading it a year or two ago.</p> <p>22 Q And in Venter, nothing was applied to</p> <p>23 the perineal area, correct? These albumin</p> <p>24 microspheres were actually injected at the top of</p> <p>25 the vaginal vault, correct?</p>	<p style="text-align: right;">Page 341</p> <p>1 fallopian tubes to the ovaries, correct?</p> <p>2 MS. PARFITT: Objection. Form.</p> <p>3 THE WITNESS: I guess I use this as a</p> <p>4 reference because some other experts used it as a</p> <p>5 reference for such a statement. And I read the</p> <p>6 article, and it sounded plausible.</p> <p>7 BY MR. KLATT:</p> <p>8 Q But you'd agree with me that the Venter</p> <p>9 1979 article doesn't involve talc particles,</p> <p>10 doesn't involve external application, and is a</p> <p>11 very artificial situation compared to the</p> <p>12 situation of women applying talc to the --</p> <p>13 MS. PARFITT: Objection.</p> <p>14 BY MR. KLATT:</p> <p>15 Q -- external genital area?</p> <p>16 MS. PARFITT: I'm sorry, Michael.</p> <p>17 Objection. Form.</p> <p>18 THE WITNESS: I -- I -- I don't disagree</p> <p>19 with what you said.</p> <p>20 BY MR. KLATT:</p> <p>21 Q And then the other two articles you</p> <p>22 cite, Henderson 1986 and Heller 1996, say nothing</p> <p>23 at all about migration of talc particles. They</p> <p>24 simply observe talc particles in tissue already</p> <p>25 without any reference to how they got there,</p>

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<p style="text-align: right;">Page 342</p> <p>1 correct?</p> <p>2 MS. PARFITT: Do you need to see the</p> <p>3 articles?</p> <p>4 THE WITNESS: Yes, I think I need to see</p> <p>5 those articles.</p> <p>6 MS. PARFITT: Do we have Henderson or</p> <p>7 Heller?</p> <p>8 MR. KLATT: I'm sorry, I don't have them</p> <p>9 with me.</p> <p>10 MS. PARFITT: Okay. Let's see. In your</p> <p>11 report -- they're in your report.</p> <p>12 BY MR. KLATT:</p> <p>13 Q And you might want to pull Cramer 2007</p> <p>14 while you're at it, because again my question is</p> <p>15 the same, it doesn't say anything at all about</p> <p>16 migration. It simply identifies particles already</p> <p>17 in tissue without saying how they got there.</p> <p>18 MS. PARFITT: Okay. Well, let's wait</p> <p>19 for a question and let's get the articles. Let's</p> <p>20 see. It would be tab -- it's a big binder.</p> <p>21 BY MR. KLATT:</p> <p>22 Q Can I -- can I --</p> <p>23 THE WITNESS: I have it in my office.</p> <p>24 BY MR. KLATT:</p> <p>25 Q Can I short-circuit this?</p>	<p style="text-align: right;">Page 344</p> <p>1 MS. PARFITT: Objection. Form.</p> <p>2 Make sure you've read the article.</p> <p>3 THE WITNESS: (Peruses document.) So</p> <p>4 I -- I've skimmed it quickly. I haven't read</p> <p>5 everything, but I don't see that it -- sorry, are</p> <p>6 we on?</p> <p>7 MS. PARFITT: Yes.</p> <p>8 THE VIDEOGRAPHER: We're on the record.</p> <p>9 THE WITNESS: I don't see that it</p> <p>10 directly addresses talc moving from the vagina</p> <p>11 into pelvic lymph nodes, but it certainly concerns</p> <p>12 the detection of talc in pelvic lymph nodes.</p> <p>13 BY MR. KLATT:</p> <p>14 Q But it says nothing in the article</p> <p>15 itself about establishing migration, correct?</p> <p>16 MS. PARFITT: Objection. Misstates his</p> <p>17 testimony.</p> <p>18 BY MR. KLATT:</p> <p>19 Q That you -- that you see.</p> <p>20 MS. PARFITT: Objection. Form,</p> <p>21 misstates his testimony.</p> <p>22 THE WITNESS: I -- I guess, you know --</p> <p>23 the question I would have is if it gets to the</p> <p>24 pelvic lymph nodes, it has to migrate there from</p> <p>25 somewhere. It's not deposited there deliberately.</p>
<p style="text-align: right;">Page 343</p> <p>1 A Yes.</p> <p>2 Q I think this -- I can short-circuit</p> <p>3 this. If you just look at Cramer 2007. Do you</p> <p>4 have that handy?</p> <p>5 MS. PARFITT: Cramer 2007. Do you have</p> <p>6 it? I don't, Michael.</p> <p>7 THE WITNESS: It would be in my office.</p> <p>8 MR. KLATT: Could we go off for a second</p> <p>9 while you are looking?</p> <p>10 THE VIDEOGRAPHER: We're going off the</p> <p>11 record at 9:15 p.m.</p> <p>12 (Pause in the proceedings.)</p> <p>13 THE VIDEOGRAPHER: We are back on the</p> <p>14 record at 9:17 p.m.</p> <p>15 BY MR. KLATT:</p> <p>16 Q So, Dr. Siemiatycki, at my request,</p> <p>17 you've pulled the 2007 article, first author</p> <p>18 Cramer, called "Presence of talc in pelvic lymph</p> <p>19 nodes of a woman with ovarian cancer and long-term</p> <p>20 genital exposure to cosmetic talc," correct?</p> <p>21 A That's correct.</p> <p>22 Q And my question was simply, this -- this</p> <p>23 article says nothing about talc migrating. It</p> <p>24 simply observes that talc was found in a lymph</p> <p>25 node. Is that correct?</p>	<p style="text-align: right;">Page 345</p> <p>1 BY MR. KLATT:</p> <p>2 Q Well --</p> <p>3 A That was my interpretation of -- of</p> <p>4 this.</p> <p>5 Q Well, look at the very first page of</p> <p>6 this article, Cramer. You see at the very top</p> <p>7 under where the authors are listed?</p> <p>8 A Yes, I do.</p> <p>9 Q It says "Background"?</p> <p>10 A Yeah.</p> <p>11 Q "Although epidemiologic studies suggest</p> <p>12 talc use may increase ovarian cancer risk, there</p> <p>13 is no proof that talc used externally reaches the</p> <p>14 pelvis." Correct?</p> <p>15 MS. PARFITT: Objection. Form.</p> <p>16 BY MR. KLATT:</p> <p>17 Q That's what it says.</p> <p>18 A That's the background to this study.</p> <p>19 That's not --</p> <p>20 Q And it's 2007, correct?</p> <p>21 A Correct.</p> <p>22 Q Which is after the Henderson study that</p> <p>23 you cite. Correct?</p> <p>24 A Correct.</p> <p>25 Q And so after -- and what -- so we have</p>

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<p style="text-align: right;">Page 346</p> <p>1 Venter that you cited and Henderson, and what 2 else? 3 A Heller -- Heller? 4 Q What was the third? Heller, yes. Thank 5 you. 1995. And here is -- 6 MS. PARFITT: No, excuse me. 1996, I 7 believe. 8 BY MR. KLATT: 9 Q Excuse me, 1996. 10 And here in 2007, we have Dr. Cramer 11 saying that there's no proof that externally 12 applied talc reaches the ovaries, correct? 13 MS. PARFITT: Objection. Misstates the 14 science and the article and his testimony. Form. 15 BY MR. KLATT: 16 Q I'm just asking what the article -- what 17 Dr. Cramer and Dr. Godleski said in the Background 18 section to this article that you cite in 2007. 19 MS. PARFITT: Objection. Form. 20 THE WITNESS: You want me to comment on 21 whether their background -- the Background section 22 of this abstract contradicts the thesis that there 23 was evidence of migration before 2007? Is that 24 correct? 25 BY MR. KLATT:</p>	<p style="text-align: right;">Page 348</p> <p>1 proof. They haven't -- they didn't say there is 2 no evidence. They said, There is no proof. 3 BY MR. KLATT: 4 Q Do you understand -- my question, 5 Dr. Siemiatycki, was simply, did Dr. Cramer say 6 there was no proof? Correct? 7 MS. PARFITT: Objection. 8 THE WITNESS: He said there was no 9 proof. 10 MS. PARFITT: Asked and answered. 11 THE WITNESS: He didn't say there was no 12 evidence. 13 BY MR. KLATT: 14 Q Okay. Can you go back -- let's see, 15 let's go back to your expert report on biologic 16 plausibility. 17 MS. PARFITT: Right here. 18 BY MR. KLATT: 19 Q Oh, one other thing. When you were just 20 scanning Cramer 2007, I saw you were looking on 21 the page where he discussed the Heller paper. Did 22 you see that? 23 MS. PARFITT: Just give him a moment to 24 get that again. I think it was 17. 25 THE WITNESS: Sorry. No. 17?</p>
<p style="text-align: right;">Page 347</p> <p>1 Q I'm -- my question is, you cited Venter 2 and Henderson and Heller for evidence of 3 migration, correct? 4 A Right. Right. 5 Q And those all predate well before 2007, 6 correct? 7 A Correct. 8 Q And here we have Dr. Cramer saying in 9 2007 there is no proof that talc used externally 10 reaches the pelvis, correct? 11 MS. PARFITT: Objection. Form, 12 misstates the article. 13 BY MR. KLATT: 14 Q Is that what he said? 15 A That's what it says. 16 Q And you -- 17 MS. PARFITT: Wait. Wait. Wait. Wait, 18 you let him finish. He said, That's what he said 19 -- finish, please. Thank you, Michael. 20 THE WITNESS: The -- the word "proof" in 21 that sentence is a red flag. I'm not sure what 22 they mean -- they meant by proof. They might 23 have -- well have said, There is evidence that, 24 but it is not yet conclusive. That is one 25 interpretation of a sentence like, There is no</p>	<p style="text-align: right;">Page 349</p> <p>1 MS. PARFITT: Yeah. 2 THE WITNESS: You have very good eyes if 3 you saw me looking at the Heller. I actually 4 wasn't, but -- 5 BY MR. KLATT: 6 Q I thought you were on that page. 7 A Well, I was -- I scanned each of the 8 four pages. There aren't that many pages. The -- 9 I see mention of the Heller article. 10 Q On page 500? 11 A Yes, I do see that. 12 Q Do you see where Dr. Cramer in 2007 is 13 suggesting that the explanation for the Heller 14 study may be contamination that was introduced 15 during the processing of the tissue specimens? 16 A So I see that he says it might have been 17 introduced during processing, and it's a potential 18 weakness. He doesn't affirm that it is. He says 19 it might be. 20 Q So contamination is another explanation 21 potentially for why you might find talc in ovarian 22 or gynecologic tissues? 23 MS. PARFITT: Objection. Form. 24 THE WITNESS: I -- I guess so. Not 25 being an expert in pathology and physiology, I --</p>

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<p>1 that seems like a plausible -- seems to me like a</p> <p>2 plausible alternative explanation.</p> <p>3 BY MR. KLATT:</p> <p>4 Q You go on and comment in the next</p> <p>5 paragraph of your biologic plausibility on two</p> <p>6 trace heavy metals, chromium and nickel compounds,</p> <p>7 correct?</p> <p>8 A So where are we -- oh, yeah. Yes.</p> <p>9 Q You're aware that IARC has made</p> <p>10 determinations regarding chromium and nickel</p> <p>11 compounds, correct?</p> <p>12 A Yes, correct.</p> <p>13 Q And neither one of the determinations</p> <p>14 found they were linked to ovarian cancer at all,</p> <p>15 correct?</p> <p>16 A That's correct.</p> <p>17 Q They found they were related to nasal,</p> <p>18 sinus and lung cancers in people, primarily</p> <p>19 workers, who had breathed the fumes, correct?</p> <p>20 A That's correct.</p> <p>21 Q So that's no way analogous to any trace</p> <p>22 heavy metals in talc, correct?</p> <p>23 MS. PARFITT: Objection. Form.</p> <p>24 THE WITNESS: It's -- it's not directly</p> <p>25 relevant. It may be indirectly relevant. The</p>	<p>1 THE VIDEOGRAPHER: This ends -- this</p> <p>2 ends the deposition of Jack Siemiatycki.</p> <p>3 We are going off the record at 9:28 p.m.</p> <p>4 (Whereupon, the deposition</p> <p>5 of JACK SIEMIATYCKI, Ph.D. was</p> <p>6 concluded at 9:28 p.m.)</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
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<p>1 evidence that allowed IARC to make determinations</p> <p>2 about lung cancer risks is evidence from</p> <p>3 industrial cohorts of males.</p> <p>4 And so there has never been an</p> <p>5 evaluation of ovarian cancer risks in relation to</p> <p>6 exposed women to chromium and nickel. It's terra</p> <p>7 incognita basically.</p> <p>8 BY MR. KLATT:</p> <p>9 Q And so following up on that, you're not</p> <p>10 aware of any evidence at all that women who have</p> <p>11 used externally applied talcum powder to the</p> <p>12 genital area have higher blood or tissue levels of</p> <p>13 chromium or nickel compounds than women who've</p> <p>14 never ever used talc at all, correct?</p> <p>15 MS. PARFITT: Objection. Form.</p> <p>16 THE WITNESS: I've -- I'm not aware of</p> <p>17 any evidence.</p> <p>18 MR. KLATT: I think that's all the</p> <p>19 questions I have.</p> <p>20 MS. PARFITT: I have no further</p> <p>21 questions.</p> <p>22 Dr. Siemiatycki, you are done. We will</p> <p>23 read and sign.</p> <p>24 Thank you, Leslie.</p> <p>25 Thank you all.</p>	<p>1 CERTIFICATE OF CERTIFIED SHORTHAND REPORTER</p> <p>2 The undersigned Certified Shorthand Reporter</p> <p>3 does hereby certify:</p> <p>4 That the foregoing proceeding was taken before</p> <p>5 me at the time and place therein set forth, at</p> <p>6 which time the witness was duly sworn; That the</p> <p>7 testimony of the witness and all objections made</p> <p>8 at the time of the examination were recorded</p> <p>9 stenographically by me and were thereafter</p> <p>10 transcribed, said transcript being a true and</p> <p>11 correct copy of my shorthand notes thereof; That</p> <p>12 the dismantling of the original transcript will</p> <p>13 void the reporter's certificate.</p> <p>14 In witness thereof, I have subscribed my name</p> <p>15 this date: February 4, 2019.</p> <p>16</p> <p>17</p> <p>18 _____</p> <p>19 LESLIE A. TODD, CSR, RPR</p> <p>20 Certificate No. 5129</p> <p>21</p> <p>22 (The foregoing certification of</p> <p>23 this transcript does not apply to any</p> <p>24 reproduction of the same by any means,</p> <p>25 unless under the direct control and/or</p> <p>supervision of the certifying reporter.)</p>

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